

Slade NWR - Narrative Report - 1969

SLADE NATIONAL WILDLIFE REFUGE  
Appert Lake Easement Refuge  
Canfield Lake Easement Refuge  
Flickertail Easement Refuge  
Hutchinson Easement Refuge  
Lake George Easement Refuge  
Lost Lake Easement Refuge  
Springwater Lake Easement Refuge  
Sunburst Lake Easement Refuge  
FLORENCE LAKE NATIONAL WILDLIFE REFUGE\*

NARRATIVE REPORT

1969

PERMANENT PERSONNEL

Marvin Mansfield - Refuge Manager  
Robert L. Wright - Assistant Refuge Manager  
(EOD 1/7)  
Gerald D. Olson - Clerk (Typing) (Resigned 1/31)  
Wilmer Brandt - Clerk (Typing) (EOD 2/17)  
Theodore Schauer - Laborer Maintenceman

TEMPORARY EMPLOYEES

Alvin L. Hottman - Laborer (3/24 - 12/12)  
Douglas D. Moffit - Laborer (3/24 - 12/12)  
Harry Feist - Laborer (4/21 - 10/18)

# C O N T E N T S

	<u>Page</u>
I. General	1,2
A. Weather Conditions.....	1,2
B. Habitat Conditions.....	2
1. Water.....	2
2. Food and Cover.....	2
II. Wildlife	3-13
A. Migratory Birds.....	3-9
B. Upland Game Birds.....	9
C. Big Game Animals.....	9
D. Fur Animals, Predators, Rodents, and Other Mammals.....	10,11
E. Hawks, Eagles, Owls, Crows, Ravens, and Magpies.....	11,12
F. Other Birds.....	12
G. Fish.....	12
H. Reptiles.....	13
I. Disease.....	13
III. Refuge Development and Maintenance	13,14
A. Physical Development.....	14
B. Plantings.....	13,14
C. Collections and Receipts.....	14
D. Control of Vegetation.....	14
E. Planned Burning.....	14
F. Fires.....	14
IV. Resource Management	14,15
A. Grazing.....	14
B. Haying.....	14
C. Fur Harvest.....	15
D. Timber Removal.....	15
E. Commercial Fishing.....	15
F. Other Uses.....	15
V. Field Investigation or Applied Research	15-20
A. Giant C. Goose Rest. Proj. ....	15-19
B. Duck Banding .....	19,20
C. ....	.....
D. ....	.....
E. ....	.....
VI. Public Relations	20-25
A. Recreational Uses.....	20,21
B. Refuge Visitors.....	21
C. Refuge Participation.....	21-23
D. Hunting.....	23
E. Violations.....	24
F. Safety.....	24
VII. Other Items	25
A. Items of Interest.....	25
B. Photographs.....	.....
C. Signature.....	.....
D. Florence Lake National Wildlife Refuge.....	26-28
E. Easement Refuge District No. 1.....	29,30

NARRATIVE REPORT  
SLADE NATIONAL WILDLIFE REFUGE

DAWSON, NORTH DAKOTA

1969

I. GENERAL

A. Weather Conditions.

	<u>Snowfall</u>	<u>Precipitation</u>		<u>Max.</u>	<u>Min.</u>
		<u>This Month</u>	<u>Normal*</u>	<u>Temp.</u>	<u>Temp.</u>
January	22.50	1.12	.45	36	-25
February	26.00	2.08	.36	34	-25
March	6.25	.31	.57	45	-13
April	T	.53	1.23	74	114
May		2.90	2.43	95	28
June		3.07	3.77	82	29
July		2.74	2.60	93	45
August		.79	2.08	100	45
September		.93	1.55	93	35
October	7.00	.78	1.17	75	21
November	.50	.02	.56	67	2
December	22.50	1.08	.33	60	-9
Totals	84.75	16.35	17.10	Ext. 100	-25

\*Based on years 1931 - 1960.

The above weather data was obtained from the records of the official U. S. Weather Bureau Station located eight miles west of the refuge in Steele.

The unofficial records kept at the refuge headquarters show the refuge actually received less snow and total precipitation than at Steele. Refuge snowfall is estimated at 48" and total precipitation at 15.20".

There was about 6" of snow on the ground at the beginning of the year. By the end of February there was an estimated 19" of snow on the ground.

The last spring snow fell on April 27 when a trace was recorded. The first fall snow was 2" on October 11.



The coldest temperature recorded at the refuge was -26 degrees on February 2 and the warmest temperature was 99 degrees on August 11.

A low of 29 degrees was recorded in Steele on June 20. This frost severely damaged the corn.

B. Habitat Conditions.

1. Water.

Spring water conditions were fair to good with a fair to good runoff. The water areas remained stable throughout the spring and summer. At freeze-up all water areas but one were higher than a year ago.

Water was allowed to flow into Harker Lake and into South Marsh from Southeast Slough. This resulted in desirable elevations for waterfowl.

The excess water was released into Lake Isabel from South Marsh.

For the second year in a row some of the small potholes held water all year.

2. Food and Cover.

South Marsh continues to provide the best food and cover for waterfowl. The marsh contains a good mixture of submerged aquatics, hardstem bulrush, phragmites, cattail, open water, and loafing sites. The east portion continues to receive heavy use from divers, especially in the fall.

The overall production of food and cover was very good. The corn yield was fair and has been heavily utilized by deer, raccoon, sharp-tailed grouse, pheasants, and mallards. The 4-H Camp corn was almost completely utilized by raccoon. At the end of the year the corn was all gone.

In February and March 2 bushels of barley was placed along the entrance road for grouse and partridge. Four hundred ninety bushels of barley was spread on Headquarters Lake East in March. In December a load (100 bushels) of barley was received from Long Lake Refuge. This was divided up and placed in three locations, Slade Recreation Area, north of Dike No. 1, and south of Dike No. 2. This has been used mostly by sharp-tailed grouse, pheasants, and rabbits.

## II. WILDLIFE

### A. Migratory Birds.

#### 1. Geese and Swans.

Graph No. 1 shows the large increase in goose use that resulted from the goose project (See Section V.). Of the total goose use-days only 2,975 can be tied to migrant birds. This is a new refuge high, surpassing the 1966 figure of 2,205.

According to old NR's, past goose use has always been very low, with quite a few years showing no use. It will be interesting to see the increases that take place in the next few years.

The first migrant geese were observed on 4/3 when 50 Canada's passed over refuge headquarters. On 4/7 there were 30 small Canada geese in the large goose pen, and on 4/9 a flock of 75 large Canada's was in the pen. The large geese spent several days with the refuge flock.

Seven white-fronted geese were observed on Harker Lake on 10/8. They were the first fall migrants. Three small Canada's were on Harker Lake on 10/20, and 70 were counted on 10/22. The number increased to 90 in early November. They all left on 11/13 during a moderate snow storm. No large Canada's stopped at the refuge in the fall, and no snow or blue geese were observed during the year.

Swan use remained very low during the year, with only two recorded in the spring and a peak of 25 in the fall. Use-days were the lowest since 1965. There seemed to be a lot of swans in the area, but they stayed clear of the refuge.

#### 2. Ducks.

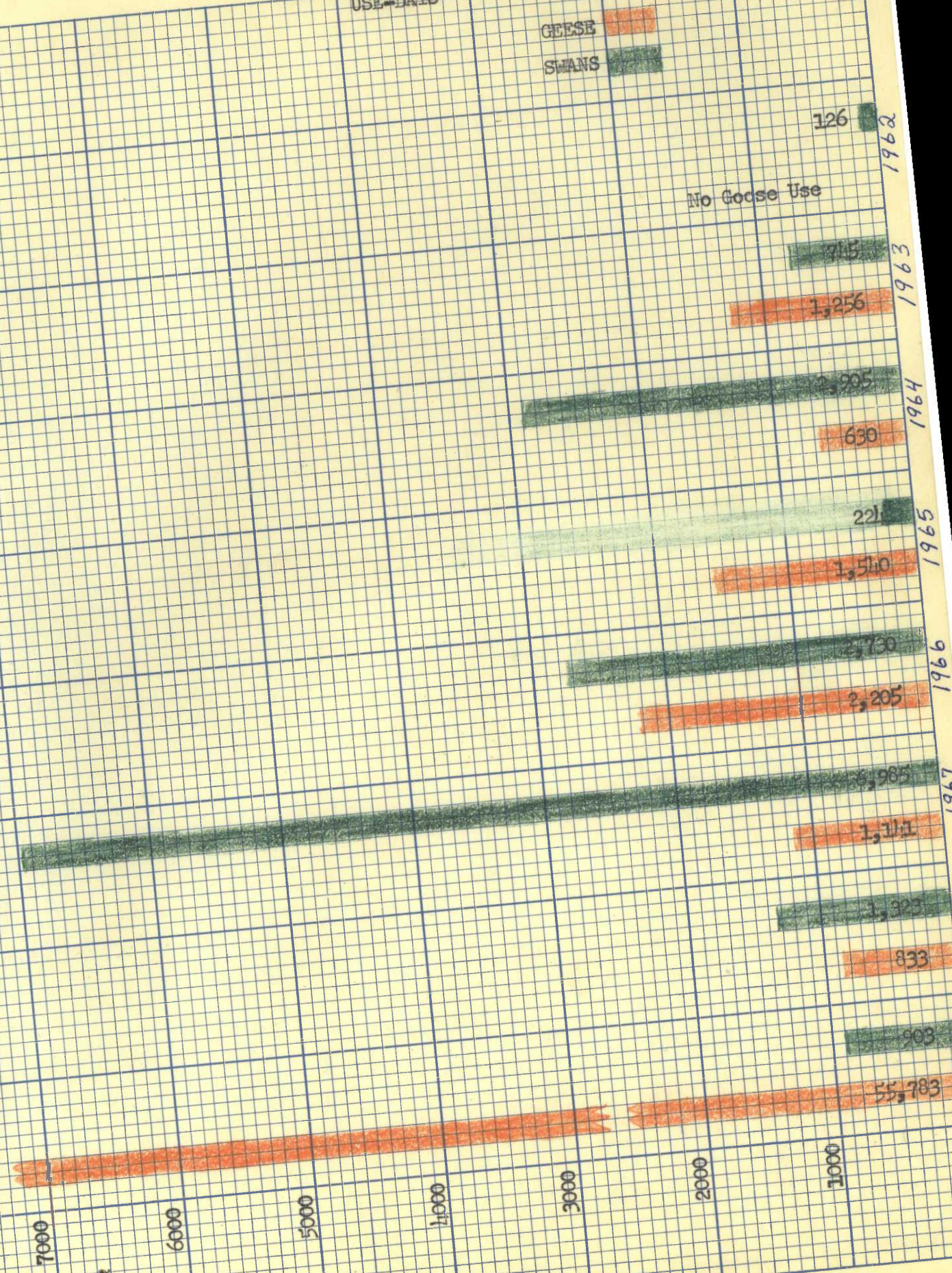
Mallards and pintails were first observed on the refuge on 4/6, exactly one month later than 1968. Undoubtedly the latest arrival date on record.

The peak spring population of 625 compares with peaks of over 4,000 for the last four years. Chances are the late arrival date was a factor in holding down the peak.

Table Number 1 shows the peak count of common ducks (by species) during the spring period.



GRAPH NO. 1  
ANNUAL GOOSE AND SWAN  
USE-DAYS





Note: This table is not related to the weekly count.

TABLE NUMBER 1

Peak Spring Population of Common Ducks

	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>
Mallard	190	235	370	600	160	95
Gadwall	170	70	200	290	65	105
A. widgeon	100	100	150	585	30	30
Pintail	70	185	200	320	50	35
BW teal	70	60	210	140	290	170
Shoveler	<u>80</u>	<u>20</u>	<u>150</u>	<u>100</u>	<u>50</u>	<u>65</u>
Total Dabs.	680	670	1,280	2,035	645	500
Redhead	1,420	1,870	325	1,260	3,500	40
Ring-necked	10	25	70	60	10	15
Canvasback	530	680	365	290	110	30
Scaup	1,010	2,040	2,060	1,490	450	380
Ruddy	<u>80</u>	<u>40</u>	<u>70</u>	<u>120</u>	<u>10</u>	<u>30</u>
Total Divers	3,050	4,655	2,890	3,220	4,080	495
Total Ducks	3,730	5,325	4,170	5,255	4,725	995

The fall peak of 2,271 was reached on 11/5 and compares with last years peak of 1,775 on 10/21. Mallards remained well below average while scaup were about average in number as can be seen in Graph Number 2.

One breeding pair count was made starting on May 26 and ending May 30. The walk-wade method was used in all water areas that could not be accurately counted from a vehicle. Table Number 2 compares the breeding pair count for the past five years.



GRAPH NO. 2  
PEAK FALL POPULATION

MALLARD

SCAUPE

8000  
7000  
6000  
5000  
4000  
3000  
2000  
1000

1960 1961 1962 1963 1964 1965 1966 1967 1968 1969

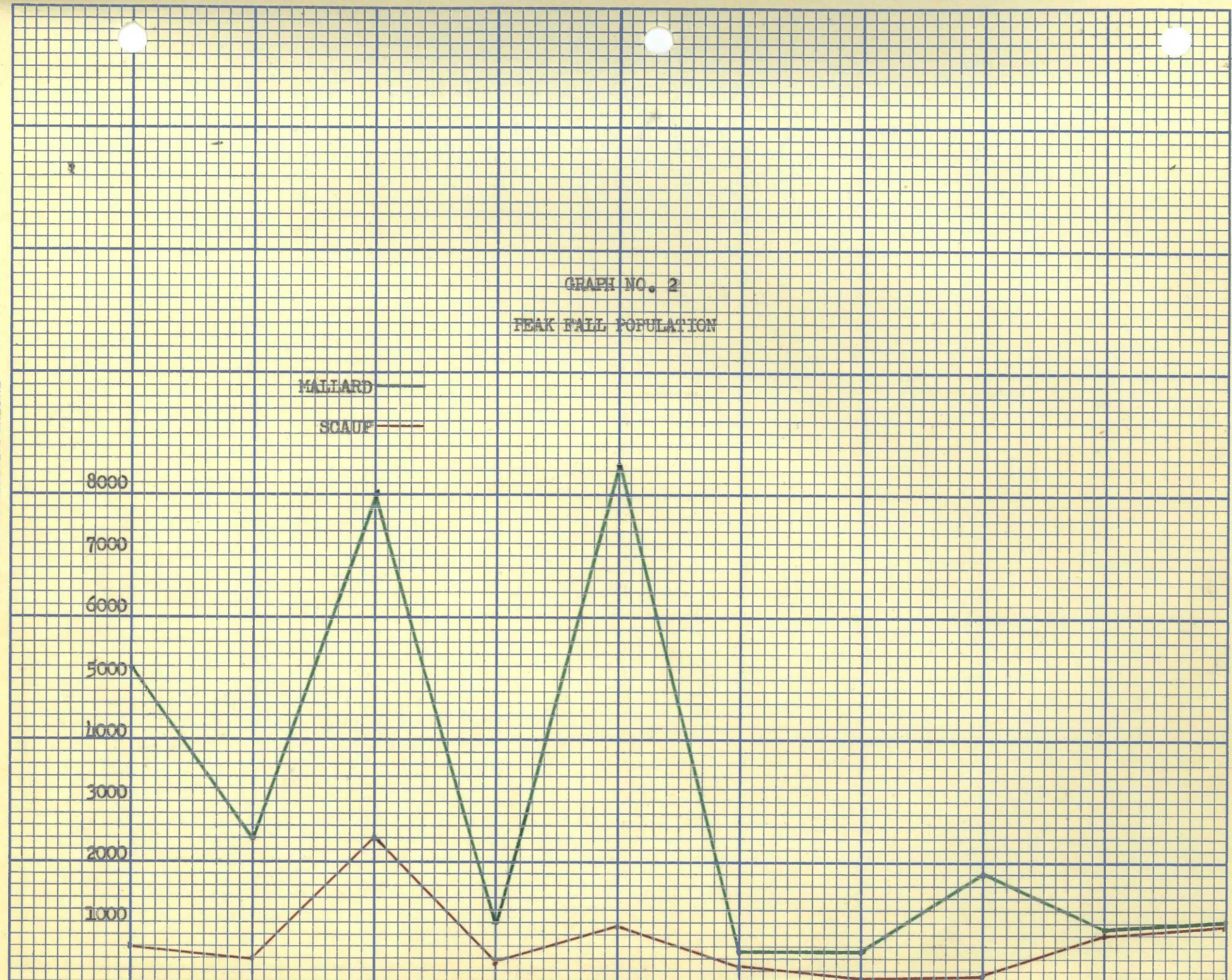




TABLE NUMBER 2

Duck Breeding Population

	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>
Mallard	18	35	44	32	47
Gadwall	17	25	24	32	46
A. widgeon	3	7	0	0	4
Pintail	4	12	9	11	17
GW teal	0	0	3	0	4
BW teal	22	55	70	145	86
Shoveler	<u>10</u>	<u>15</u>	<u>38</u>	<u>24</u>	<u>33</u>
Total Dabs.	74	149	188	244	237
Redhead	5	15	12	10	10
Ring-necked	0	0	0	0	3
Canvasback	6	15	4	4	7
Scaup	11	15	5	8	6
Ruddy	<u>20</u>	<u>6</u>	<u>1</u>	<u>3</u>	<u>13</u>
Total Divers	42	51	22	25	39
Totals	116	200	210	269	276

Two brood counts were made, 7/11 and 8/15. Map Number 1 in the 1967 NR shows the route. Table Number 3 compares observed broods with estimated broods for the past three years.

TABLE NUMBER 3

Duck Broods

	<u>Observed Broods</u>			<u>Estimated Broods</u>		
	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>
Mallard	6	1	6	22	10	22
Gadwall	8	3	9	25	10	24
A. widgeon	0	0	0	0	0	2
Pintail	1	0	0	5	3	8
BW teal	8	8	1	22	40	30
Shoveler	<u>2</u>	<u>1</u>	<u>3</u>	<u>5</u>	<u>7</u>	<u>13</u>
Total Dabs.	25	13	19	79	70	99
Redhead	2	0	5	5	4	10
Ring-necked	0	0	0	0	0	2
Canvasback	2	1	1	5	2	5
Scaup	1	0	1	3	3	3
Ruddy	<u>1</u>	<u>0</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>10</u>
Total Divers	6	1	10	16	12	30
Totals	31	14	29	95	82	129

The estimated total of 129 broods and 276 pairs gives a productivity figure of 47%. Based on local observations and discussions with Northern Prairie Wildlife Research Center biologists, the 47% figure seems realistic. This was a good year for ground nesting birds.

Table Number 4 shows estimated production for the past six years.

TABLE NUMBER 4

Estimated Production

	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>
Mallard	50	75	90	130	60	130
Gadwall	30	105	75	150	60	140
A. widgeon	5	10	15	0	0	10
Pintail	30	10	20	30	20	50
GW teal	0	0	0	0	0	10
BW teal	55	60	120	130	240	180
Shoveler	15	20	25	30	40	80
Redhead	10	5	40	30	25	50
Ring-necked	0	0	0	0	0	10
Canvasback	20	20	40	30	10	25
Scaup	4	30	40	15	15	15
Ruddy	<u>40</u>	<u>50</u>	<u>15</u>	<u>15</u>	<u>15</u>	<u>50</u>
Totals	259	385	480	560	485	750

Use-days remained almost the same as last year, but the late spring caused a drastic reduction in the January - April period. See Table Number 5.

TABLE NUMBER 5

Duck Use-Days By Season

	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>
Jan-Apr	48,545	49,490	54,425	89,670	79,835	10,535
May-Aug	50,113	35,595	86,170	119,945	69,335	97,545
Sep-Dec	<u>305,389</u>	<u>98,252</u>	<u>41,370</u>	<u>74,760</u>	<u>83,300</u>	<u>123,655</u>
Totals	404,047	183,337	181,965	284,375	232,470	231,735

3. Coots.

Total coot use-days dropped from last year but still were the second highest on record. The fall population ranged between 790 and 930 for eight weeks.

The breeding population was estimated at 25 pairs, and production at 75.

TABLE NUMBER 6

	<u>Coot Use-Days By Season</u>					
	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>
Jan-Apr	700	0	105	490	35	315
May-Aug	7,630	4,480	6,685	17,850	23,590	17,745
Sep-Dec	<u>6,790</u>	<u>9,030</u>	<u>32,130</u>	<u>45,920</u>	<u>55,860</u>	<u>50,260</u>
Totals	15,120	13,510	38,920	64,260	79,485	68,320

#### 4. Water and Marsh Birds.

The cormorant peak of 20 was reached on 5/2. The peak is normally in the fall and numbers often reach 100 or more. The fall peak of 8 was observed on 10/3.

The white pelican high of 26 was recorded on 7/12.

Two great blue herons were observed in August, compared to two a year ago in June.

Pied-billed and western grebes were very numerous again this year, while eared grebes were scarce, and horned and red-necked grebes were not observed.

No sandhill cranes used the refuge, but their fall numbers north of Dawson increased to about 15,000 compared to 10,000 in 1968.

#### 5. Shorebirds, Gulls, and Terns.

Franklin's gulls peaked at 900 in early October compared to 170 last year. Ring-billed and herring gulls were present in fair numbers.

Killdeer increased slightly, while avocet numbers remained about the same as last year. Two avocets were still present in Harker Lake on 11/5. Two pairs of marbled godwits used the refuge but no young or nests were seen. No willets were observed.

6. Mourning Doves.

The peak number of 70, and production of 45, is about the same as 1968. The headquarters shelterbelt remains the favorite nesting spot.

B. Upland Game Birds.

1. Ring-necked Pheasant.

The pheasant population is estimated at 15 at the end of the year, compared with 25 a year earlier. On 11/8 there were four hens and a rooster in Southeast Slough.

2. Sharp-tailed Grouse.

Grouse numbers are estimated at 70 in December, compared with 75 in 1968. One brood of 12 young was observed in the Northwest Slough shelterbelt.

The entrance road corn strip received heavy use with 20-30 birds using it every day during the fall and early winter.

The one refuge dancing ground was not checked, but it is known that the ground was used.

3. Gray Partridge.

The year end "Hun" population estimate of 20 is the same as 1968. A brood of 19 was observed along the west boundary on 8/23. None were observed on the refuge after that date.

4. Pinnated Grouse.

None observed in this general area.

C. Big Game Animals.

An estimated twenty white-tailed deer were using the refuge in October, the same as a year ago. Sightings were common, and all corn fields received heavy use.

Mule deer are still seen occasionally within five miles of the refuge, but none have ever been seen on the refuge.



D. Fur Animals, Predators, Rodents, and Other Mammals.

1. Fur Animals.

Muskrats are making a slight comeback in this area, but are still much below desireable levels. Their houses could be a real boon to the goose project. Only two houses were located on the refuge, and both were in Northwest Slough. The "rat" population is estimated at 10 compared to 5 last year.

Mink and long-tailed weasel numbers remain low with an estimate of eight for each species. Three mink and two weasels were observed during the year. One male mink was trapped in November during predator control work. He was sold for \$18.00 at Porter Bros. in Bismarck, and the check was sent to the R. O.

No local trappers requested permission to trap on the refuge. None have asked to trap here for several years.

2. Predators.

Raccoon observations remain low although their sign was common in the corn fields. They cleaned all the corn from the small 4-H Camp cornfield by the end of October. The peak population is estimated at 15, the same as last year.

The striped skunk population is high, with an estimate of 25 compared to 20 a year ago.

The red fox peak is estimated at 10, the same as last year. No gray fox are known to be present in this area.

Predator control work resulted in the removal of 1 red fox, 3 raccoons, and 13 striped skunks.

Badgers were seen occasionally, but their numbers remain low, with a population estimate of five, the same as last year. None were destroyed because of their control work on pocket gophers.

Table Number 7 lists the predators destroyed in the last five years.

TABLE NUMBER 7

Predator Control

	<u>Calendar Year</u>				
	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>
Raccoon	7	14	18	9	3
Skunk	7	3	8	10	13
Red Fox	3	0	4	0	1

3. Rodents and Other Mammals.

Thirteen-lined ground squirrels are numerous, Franklin's are common (especially at the Rec. Area), and Richardson's are scarce. Pocket gophers are also common. There is no noticeable population change regarding any of these species.

Jack rabbit and cotton-tail rabbit numbers remain about the same as last year with peaks estimated at 30 and 10 respectively.

E. Hawks, Eagles, Owls, Crows, Ravens, and Magpies.

Eagles sighted during the year include an adult bald on 3/18, and an adult golden on 4/5. Hawk numbers were quite low, although marsh hawks were common. The Swainson's hawk did not use the nest near the east boundary gate that was used last year.

On 8/2, a Mr. Craft brought us a young ferruginous rough-legged hawk which he found near his cottage at Lake Isabel. The hawk had a small loop of blue denim around his leg, and obviously had escaped from someone.

He was just learning to fly, and not able to secure his own food. We fed him mice and ground squirrels for about three weeks. He became a good flyer and apparently learned to find his own food.

The hawk disappeared after the opening week-end of the teal season, which may, or may not mean anything. He spent considerable time near the geese but never seemed to bother them.

One snowy owl was observed on 3/14, and at least one great-horned was present all year. A family of four short-eared owls was observed along the entrance road on 7/11.

Very few crows were noticed on the refuge, and none nested here.  
No ravens were observed, but one magpie was seen on 12/20.

F. Other Birds.

TABLE NUMBER 8

<u>Common Name</u>	<u>Date First Observed</u>	<u>Number</u>
Downy Woodpecker	1/16	1
Bohemian Waxwings	1/22	35
Redpolls	2/7	10
Prairie Horned Lark	3/4	Many
Snow Bunting	3/5	10
Crow	3/17	1
Killdeer	3/22	1
Meadowlark	3/22	1
Slate-colored Junco	4/4	Many
Tree Sparrows	4/4	5
Red-winged Blackbird	4/6	6
Robin	4/8	5
Yellow-shafted Flicker	4/8	1
Mourning Dove	4/10	1
Myrtle Warbler	5/2	2
Barn Swallow	5/5	2
Towhee	5/7	1
Gray-cheeked Thrush	5/7	2
Olive-backed Thrush	5/7	3
White-throated Sparrow	5/7	2
Chipping Sparrow	5/7	2
Yellow Warbler	5/7	1
Brown Thrasher	5/8	1
Harris' Sparrow	5/12	4
Bob-o-link	5/13	2
Goldfinch	5/14	1
Western Kingbird	5/14	Many
Eastern Kingbird	5/19	2
Baltimore Oriole	5/20	1
Catbird	5/20	1
Orchard Oriole	6/4	1
Black-billed Cuckoo	6/7	2

G. Fish.

Fathead minnows and sticklebacks are numerous, but no other fish are present.

## H. Reptiles.

Garter snakes, painted turtles, and tiger salamanders are common. Two hog-nosed and two smooth green snakes were observed during the year. No poisonous snakes occur in this area.

## I. Disease.

None.

# III. REFUGE DEVELOPMENT AND MAINTENANCE

## A. Physical Development.

A new furnace was installed in the residence, and in the office. A new 1,000 gallon furnace oil tank was placed underground to serve the residence furnace.

Hauled about 25 yards of gravel to fill in low spots in roads and trails. Riprapped 200' of No. 3 dike. Had 17 goose nesting islands constructed with a dragline.

A firebreak was plowed around the goose pen and along the east and south boundaries. An automatic heated waterer was installed in the goose pen.

Storage space was constructed on top of the garage rafters. Two concrete toilet pits (7' X 4' 6") were reconstructed at the Rec. Area. One new picnic table was built, and four others were rebuilt.

## B. Plantings.

### 1. Aquatic and Marsh Plants.

None.

### 2. Trees and Shrubs.

The headquarters shelterbelt had 750 Colorado blue spruce and 300 Russian olive planted. There were 250 spruce and 200 eastern red cedar planted in the Northwest Slough shelterbelt. All planting was done on May 1 and 2. The olive and spruce had a survival rate around 90%, while the cedar rate was near 75%.

### 3. Upland Herbaceous Plants.

None.

#### 4. Cultivated Crops.

Crop yields were average or better, except for corn which was seriously damaged by the June 20 frost. Per acre estimates are; wheat - 11 bu., oats - 50 bu., barley - 22 bu., and corn - 15 bu.

#### C. Collections and Receipts.

None

#### D. Control of Vegetation.

Six small patches of leafy spurge were sprayed on 6/3, and the regrowth on 7/17. These patches are barely hanging on with only a handful of plants left at the smaller ones. All spraying was done with Tordon from a hand sprayer.

The poison ivy at the Rec. Area was sprayed on 7/1 with Trysben 200. The ivy is scattered around in many small patches in the trees and brush, making control difficult.

#### E. Planned Burning.

None.

#### F. Fires.

None.

### IV. RESOURCE MANAGEMENT

#### A. Grazing.

Four permits were issued in 1969. A total of 347.14 AUM's were utilized at \$2.61 per AUM.

The units grazed included G-2, 5, 6, and 7. The grasses in these units are mostly tame (primarily brome), and very good wildlife cover was left at the end of the grazing season.

#### B. Haying.

No haying is allowed except on the landing strip and roadsides. No charge is made because of the time of the year and the fact that refuge personnel would have to mow the grass anyway.



C. Fur Harvest.

One mink was removed by refuge personnel trapping skunk. The refuge receipts for the mink amounted to \$18.00. No other trapping is permitted.

D. Timber Removal.

None.

E. Commercial Fishing.

None

F. Other Uses.

The refuge received \$70.98 from the bid sale of junk items. GSA handled the sale of the old 3/4 ton Dodge. This was sold to Reiny's Wrecking Shop, Steele, N. Dak. for \$437.80.

## V. FIELD INVESTIGATION OR APPLIED RESEARCH

A. Giant Canada Goose Restoration Project.

The goose project is a cooperative effort between the Division of Wildlife Research, Division of Refuges, and the North Dakota Game and Fish Department. Research is represented by the Northern Prairie Wildlife Research Center (NPWRC) at Jamestown.

1. Cooperators Responsibilities.

The NPWRC will develop research procedures; outline data to be gathered; devise recording forms; gather and compile data; furnish supervision and man-power for wing-clipping, color marking, banding and other technical aspects of the project; provide experimental geese needed and supply feed the first winter; provide review, direction and coordination to research and management of resident goose flocks in Region 3.

Slade National Wildlife Refuge will furnish fencing material; construct and maintain pen; provide routine care of goose flock and assist with data gathering.

The North Dakota Game and Fish Department will provide initial protection for the flock by closing an area roughly one township in size.

## 2. Pen Construction.

Two pens were constructed in the fall of 1968. The winter pen contains about 0.15 of an acre and is located in the southeast corner of the headquarters shelterbelt. The 8.5 acre summer pen is located northeast of the winter pen and includes a 4 acre pothole. The two pens are "connected" when the large 16' gates are open so that geese can be moved without handling.

The pens are constructed of 6' woven wire and 8' steel T posts. Wooden posts are used in low spots and corners. About 4"-6" of wire is buried. A "hot" wire surrounds the outside of the summer pen to prevent raccoons from climbing over the fence.

The winter pen contains a windbreak along part of the west and north sides. A heated, automatic waterer was installed in November, 1969.

## 3. Arrival of Geese.

The first geese (47) arrived on 2/7 and the last (41) on 3/18. A total of 143 birds were received, all from the NPWRC. Their birth dates ranged from 1965 - 1968. All were wing-clipped or pinioned.

## 4. Production.

Since no birds could fly, all nesting took place in the pens. The first egg was observed on 4/14 and the first brood on 5/19. The last nest is estimated to have hatched on 6/3. The following table shows the dates when known nests hatched:

<u>Hatching Date</u>	<u>No. Nests</u>	<u>Hatching Date</u>	<u>No. Nests</u>
5/18	1	5/26	3
5/20	1	5/27	1
5/21	1	5/28	2
5/22	1	5/29	1
5/25	3		

There was a grand total of 22 nests with eggs, of which 19 hatched. These 19 produced 89 goslings. All but 2 of the goslings were raised. There were 20 nests in the summer pen and 2 in the winter pen. The 2 in the winter pen produced 8 goslings from one nest and 7 from the other.

The extremes in clutch sizes ranged from 3 (one nest) to 8 (one nest), with the most common 6 eggs (8 nests). The 22 nests contained a grand total of 126 eggs for an average clutch size of 5.73.

Conditions were too crowded in the summer pen for optimum nesting. At least three nests were started and abandoned with no eggs laid. In addition there were lone eggs and eggs that appeared to be in a nest that were never sat on. A total of 23 eggs of this type were gathered and incubated at the NPWRC. Ten hatched and these were raised at the refuge. This makes a grand total of 97 goslings raised here.

#### 5. Banding.

In July and August 190 geese were leg-banded and marked with orange neck collars with black numbers. A few birds (estimate 5-10) could not be captured because they were already flying. The neck collars are made to come off easily in case they get them caught someplace. This resulted in a fairly high collar loss estimated at 25% at the end of the year. This still leaves a lot of marked birds to be observed during migration and nesting.

#### 6. Fall Activity.

The geese started flying to a fair degree in August. By early October a few had made flights of at least 10 miles (5 miles one way). The flying activity was nothing compared to wild birds, but it must be remembered that none of the geese in the entire flock had ever flown.

There was a flock of 30-40 birds that seemed to be more pioneering than the rest. They were the first to field feed, and ranged further away from the pen than the others.

Except for the above flock, the birds never really did much field feeding. In fact, it is estimated that a maximum of 80 geese fed in fields.

The lack of field feeding was probably caused by (1) available feed in the summer pen, and (2) no history of field feeding in the flock. Lack of good fields was not the answer. There was even a lush rye field located about 300 yards from their favorite loafing spot. Perhaps they will utilize the fields in the spring.

## 7. Migration.

A maximum of 52 geese could have migrated. This is based on the following counts made in the winter pen:

<u>Date</u>	<u>Geese Present</u>	<u>Date</u>	<u>Geese Present</u>
11/17	210	12/9	171
11/24	204	12/18	171
12/3	188		

The geese were too wild for accurate counting after the 18th. On 11/17 there were 14 birds unaccounted for. One bird was shot locally on 11/24.

On 1/5/70 two geese from our flock were live-trapped at Lake Andes NWR, about 250 air miles SSE of Slade. One of these later died. Another goose from our flock was shot in the vicinity of Lake Andes. There are no other records of the geese migrating.

## 8. Mortality.

The following table shows the number of geese that died during the year:

<u>Date</u>	<u>Number</u>	<u>Cause</u>
3/17	1	Stress ?
4/28	1	Fighting, Stress ?
6/1	1	Severe Storm on 5/31
7/13	2	Lack of Water
8/2	1	?
9/2	1	?
9/16	1	Enteritis
10/1	1	Enteritis
11/14	7	Froze in Lake
11/24	1	Shot Locally
12/?	<u>1</u>	Shot Lake Andes NWR
Total	18	

The geese that died on 7/13 had just started to fly and had landed outside the pen. The weather was very hot and they just walked back and forth along the fence until they died.

On 11/14 seven birds were found frozen in Harker Lake (5) and Upper Harker Lake (2). A moderate blizzard struck on 11/13, but it did not seem severe enough to kill the birds. We believe they were in a weakened condition, but could not salvage any for analysis.

9. Feed.

The birds are fed commercial pellets (supplied by the NPWRC) from about 2/15 until 8/15. They are fed barley from 8/15 until 11/15, and a barley-corn mix from then until 2/15. Barley is always available but they seldom touch it when they have the pellets.

10. Summary.

The project got off to an excellent start and a lot of people deserve a pat on the back. The men at the NPWRC who worked on the project were especially cooperative.

Thanks are due Chuck Schroeder and Ed Bry of the North Dakota Game and Fish Department for their interest, help and cooperation.

Messrs. Schauer, Brandt and Hottman of the Slade Refuge staff spent many hours working with the geese and in record keeping. In addition the R. O. Refuge staff provided assistance and encouragement.

If cooperation and interest are prerequisites, the project is bound to succeed.

B. Duck Banding.

The blue-winged teal quota of 200 was easily reached with a total of 333 blue-wings and 2 green-wings banded. The first teal were banded on 8/11 and the last on 8/26. Baiting was started on 8/6.

The same banding site has been used for the past several years. It is located on the south side of Headquarters Lakes (East). Part of the trap had to be moved because of higher water.

The total banding cost was \$122.60 or \$.37 per bird. Labor (32 hours) accounted for \$99.00, grain \$17.60, and equipment \$6.00. There were no material costs as the old trap was used. All banding was done by Clerk Brandt, Laborer Hottman, Manager Mansfield, and Doug and Dick Mansfield.



TABLE NUMBER 9

Slade Refuge Banding

## Blue-winged teal

	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>
IM	180	32	95	185
IF	206	21	84	130
AM	2	3	39	10
AF	<u>5</u>	<u>2</u>	<u>24</u>	<u>8</u>
Total	393	58	242	333

During the banding operation two adult female blue-wings were trapped that had been banded here in previous years. One was banded on 8/18/66 and trapped here on 8/25, while the other was banded on 8/23/68 and trapped on 8/26.

Table Number 10 lists the returns received during the year from ducks banded at Slade Refuge.

TABLE NUMBER 10

Band Returns

<u>Species</u>	<u>Date Banded</u>	<u>Date Recovered</u>	<u>Where Recovered</u>
BW Teal	8/19/66	12/?/68	Paso Real de Sandiego, Pinar del Rio, Cuba
Mallard	8/28/67	9/10/68	Sand Lake Refuge
BW Teal	8/14/68	12/14/68	Caernoyan, La.
BW Teal	8/15/68	8/26/68	Cheyenne Bot. WMA, Kansas
BW Teal	8/17/68	10/5/68	4 S Darwin, Minn.
BW Teal	8/23/68	8/26/69	Slade Refuge
BW Teal	8/25/68	4/26/69	Cienaga de Momil, Col.
BW Teal	8/27/68	12/29/68	St. Bernard, La.

## VI. PUBLIC RELATIONS

A. Recreational Use.

The Lake Isabel Recreation Area was open from May 15 through September 15 for swimming, picnicing, and boat launching.

Actual visits amounted to 6,230 as compared to 5,590 in 1968.

The area was not operated as a U. S. Fee Area as it was in the past two years.

The 4-H Camp was used from June to July by the following campers:

<u>Dates</u>	<u>County</u>	<u>Number</u>
June 22-25	Logan, McIntosh	70
June 25-28	Morton	60
July 6-9	Burleigh	81
July 9-12	Burleigh	70
July 13-16	Emmons	45
July 16-19	Kidder	68

Except for Emmons County, all the campers were given a tour of the refuge including a chance to see the goose flock and hear about the project.

#### B. Refuge Visitors.

See Official Visitor Log following Part VI for some of the more important visitors. Slade Refuge had a total of 7,827 visitors. There were 251 visitors to see the geese.

#### C. Refuge Participation.

1/17	Mansfield attended Wildlife Federation Meeting at Bismarck.
1/28	Mansfield attended W. O. Meeting and NPWRC Seminar.
3/17	Mansfield presented a slide-talk at the Steele school to 490 students and teachers.
3/25	Mansfield and Wright attended Seminar at NPWRC.
3/29	Mansfield gave talk on goose project and showed geese to 6 cub scouts and 1 leader from Steele at Slade Refuge.
4/1-3	Mansfield attended Wetland-Refuge Manager Workshop at Watertown, S. Dak.
4/23	Mansfield gave talk on goose project and showed geese to 24 cub scouts and 2 leaders from Steele at Slade Refuge.
4/24	Mansfield conducted tour of Slade Refuge for 52 Dawson and Steele students.

- 5/13 Brandt explained goose project and showed geese to 9 cub scouts and 2 leaders from Dawson at Slade Refuge.
- 5/16 Mansfield showed geese, gave a talk on the goose project, and showed White Wilderness Part III to 46 students and 1 leader from Steele at Slade Refuge.
- 6/24 Mansfield explained goose project and showed geese to 70 Logan and McIntosh County 4-H Campers at Slade Refuge.
- 6/27 Brandt explained goose project and showed geese to 60 Morton County 4-H Campers at Slade Refuge.
- 7/9 Brandt conducted a tour of Slade Refuge, explained goose project and showed geese to 81 Burleigh County 4-H Campers.
- 7/12 Mansfield conducted a tour of Slade Refuge, explained goose project and showed geese to 70 Burleigh County 4-H Campers.
- 7/18 Mansfield explained goose project and showed geese to 68 Kidder county 4-H Campers at Slade Refuge.
- 8/7 Mansfield showed geese, explained goose project, and showed "Mourning Dove" movie to 11 refuge visitors in the evening.
- 8/8 Mansfield showed "Mourning Dove" movie to 16 refuge visitors in the evening.
- 8/21 Mansfield attended Prairie Plant Identification Session at Arrowwood Refuge.
- 8/22 Mansfield toured Sheyenne National Grasslands.
- 8/24 Mansfield showed "Pelican Island" movie to 10 refuge visitors in the evening.
- 8/29 Mansfield attended Law Enforcement Meeting at Jamestown.
- 9/7 Douglas Mansfield showed "White Wilderness" Part I and "Olimpic Elk" movies to 22 refuge visitors in the evening.
- 9/12 Mansfield showed "White Wilderness" Part I and "Olimpic Elk" movies to 13 refuge visitors in the evening.
- 9/25,26 Mansfield attended Wetland Managers Meeting at Webster, S. Dak.
- 9/26 Mansfield showed "This is the Mallard" movie to the Dawson American Legion (14) in Dawson.

- 10/10      Mansfield showed "White Wilderness" Part II and "Alaska Caribou" movies to 14 refuge visitors in the evening.
- 10/16      Mansfield showed "White Wilderness" Part II and "Alaska Caribou" movies to 14 refuge visitors in the evening.
- 10/27      Mansfield presented a slide-talk on the goose project to the Steele JC's (65) in Steele.
- 11/25      Mansfield presented a slide-talk on the goose project to 27 KC's at Tappen.

#### D. Hunting.

Only deer hunting is allowed on the refuge. The hunting pressure was light due to the fact that the hunters have to drag their deer to the refuge boundry or to the entrance road.

The season opened at noon November 7 and closed at sunset November 16. It is estimated that 43 hunters used the refuge during the season.

There were an estimated 20-25 deer on the refuge when the season opened. Three deer were known to be taken and it is estimated that one other was taken for a total of four. Of the known deer taken, 2 were yearling bucks and the other was a 2½ year old buck. This compares with a kill of 2 in 1968 and 2 in 1967.

A teal season was held again in North Dakota from September 6 through September 14. The hours of shooting were from 8:00 A.M. to 5:00 P.M. C.D.T. The hunting pressure was light but the hunters daily bag was good.

Sharp-tailed grouse and gray partridge season was open from September 20 through December 14 with a bag and possession limit of 4 and 8. The population ran from fair to good with moderate hunting pressure.

The pheasant season was closed this year.

The goose season extended from October 1 through December 25. The goose numbers in the area were low and the hunting pressure was moderate.

Duck hunting pressure was moderate. The season opened on October 4 and closed on November 12. Mallards were not here in large numbers.

The Sandhill crane season extended from November 8 through December 7 with fair go good hunter success. Nearly all the cranes were gone by November 12th.

E. Violations.

None.

F. Safety.

Safety meetings were held at Slade and Long Lake Refuges. The following topics were presented and discussed:

Carbon Monoxide Poisoning	Dangers from Compressed Air
Snowmobiling	Driving Safety
Seat Belts	Roll Bars and Seat Belts on Tractors
Goose Handling	What to do when the lights go out
Let's Look at Your Appliances	Electrical Shock Hazards
Prairie Fires	The Use of Diquat and Paraquat
Burns	Lawn Mowing
Back Injuries	Professionalize Your Driving Habits
Power Line Problems	Safety Mgmt. Information System
Your Home	Safety and The Use of Formalin
Starting Fires with Water	Vaccume Bottles
Deadly Sand Pile	X-Ray from TV Sets
Tractor Accidents	Safety in Your Glove Compartment
Boating Safety	Tractor and Trailer Problems
The Eyes Have It	Silent Weapons Aimed at Hunters
Stopping Problems	Vehicle Safety
Tetanus, Lifting, Bad Weather Driving, Pressurized Cans, and Proper Condition for Equipment	
Monthly Accident Report of All Field Stations	
What a Federal Employee Should do When Injured on the Job	

Safety accomplishments during the year include:

Clothes line at Long Lake Refuge was set so it is adjustable to eliminate a Safety hazard.  
 Safety belt was installed on the tractor at Long Lake.  
 Purchased exhaust hose for Slade and Long Lake refuges. Used to eliminate exhaust in the building.  
 Purchased oil burners to set back-fires at Slade and Long Lake.  
 Cut pointed eaves boards off at Long Lake.  
 Installed non-skid tape on tractors and pickup at Long Lake  
 Put up signs for electrical shut-off and gas shut-off at Slade and Long Lake.

The Movie "Final Factor" was shown.

The Safety record now stands at 10,458 days without a "lost-time" Accident.

## OFFICIAL VISITORS LOG

<u>Name</u>	<u>Organization</u>	<u>Purpose of Visit</u>	<u>Date</u>
John Carlsen	RO Minneapolis	Refuge Inspection	1/20
Wilbur Boldt	Dep. Comm. NDG&F	Visit	1/28
Robert Morgan	Habitat Chief NDG&F	Visit	1/28
James Coyner	RO Minneapolis	Visit	1/28
Harold Spitzer	Chief Warden NDG&F	Visit	3/14
Wm. McClure	USGMA	Visit	3/14
Ed Bry	Editor N. Dak. Outdoors	Taking Pictures	Several
Bill Corwin	Corwin-Churchill Mtrs.	Visit	8/26
Bower Rudrud	Pres. Bismarck Aud. Club	Photo Geese	Several
Clair Rollings	RO Minneapolis	S&M - WPA's	10/7
Dick Johnston	RO Minneapolis	Furnace Inspec.	10/7
John Carlsen	RO Minneapolis	Refuge Inspection	10/28

## VII. OTHER ITEMS

A. Items of Interest.

Robert Wright arrived on January 7 to replace Karl Hansen (transferred to Savana, Upper Miss. Refuge, and now a biologist at NPWRC). Bob came from the Prairie du Chien station of the Upper Mississippi Refuge. He, his wife Sally, and seven month old daughter Mary were soon settled in the Long Lake Refuge residence. On 12/11 their second daughter (Anne ) was born.

Bob is responsible for the management of all WPA's in the district. His previous training has proven valuable even though WPA management can be quite different. He is a real asset to the program.

Refuge Clerk Gerald Olson resigned effective 1/31/69 because he was tired of driving to Slade Refuge three days a week. He will be missed because of his ability and long experience as a clerk.

Gerald was replaced by Wilmer Brandt on 2/17/69. Wilmer and his wife Linda reside in Dawson where they are well accepted. He has really taken hold of things and is a fine addition to the staff.

Sections I, IV and VI were written by Clerk Brandt. He also deserves credit for typing and assembling the report. The rest of the report was written by the manager.

## NARRATIVE REPORT

## FLORENCE LAKE NATIONAL WILDLIFE REFUGE

## I. GENERAL

On 4/9 Florence Lake was still ice covered but the smaller potholes were mostly ice free. Water was flowing slowly from the south marsh, through the culvert, and into Florence Lake. The lake was about 4" below the bottom of the culvert. Run-off was about 1/3 completed.

On 6/3 water conditions ranged from fair to excellent with the average considered to be good. Overall, the water situation throughout the year was the best in recent years.

The water in Florence Lake was about 4" below the culvert at freeze-up.

## II. WILDLIFE

A. Waterfowl.

No ducks were observed on the refuge until early April. Peak numbers in the spring and fall are unknown, but neighbor Joe Bernhardt reports duck numbers down in the fall. He also stated a fair number of geese and swans used the refuge in the fall.

A breeding pair count was started on 6/3 by Messrs. Wright and Mansfield, and completed on 6/9 by Wright. The breeding pair count results for the last four years follow.

	<u>Breeding Pair Counts</u>		<u>1968</u>	<u>1969</u>
	<u>1966</u>	<u>1967</u>		
Mallard	18	30	25	14
Gadwall	31	25	28	18
A. widgeon	0	0	2	0
GW teal	2	2	1	2
BW teal	147	149	111	65
Shoveler	16	13	10	17
Pintail	19	17	17	11
Redhead	9	9	9	5
Canvasback	5	4	5	2
L. scaup	5	5	6	6
Ruddy	15	10	10	10
Total Pairs	267	264	224	150
Coot Pairs	71	42	43	8

Productivity was known to be high this year and is estimated at 60%. Using this figure and 6 for the average brood size we come up with a duck production of 540. This compares with 468 last year and 475 in 1967.

The coot breeding pair count was much below normal and apparently not accurate based on later observations. Production is estimated at 75 compared to 100 the last two years.

B. Upland Game Birds.

No pheasants have been seen since the March, 1966 blizzard. Sharp-tailed grouse are common and gray partridge are fairly common. Peak populations are estimated at 35 and 15 respectively. This compares with 1968 estimates of 30 and 15.

C. Other Birds.

Black-crowned night herons, great blue herons and American bitterns were observed. Pied-billed grebes were common and several broods were seen. Western and eared grebes were also noted. Several sora rails were observed during the breeding pair count.

D. Big Game Animals.

White-tailed deer are the only big game animals present. It is not unusual to see 5-10 deer at one time. The peak population is estimated at 30, the same as last year.

E. Predators.

Red fox, skunk and raccoon are seen on occasion. Their numbers are estimated at 4, 10 and 10 respectively, the same as last year.

### III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development.

Several stretches of fence were repaired in April because of heavy snow damage. The entire boundary was checked in September and signs and posts installed to replace those damaged or missing.

B. Plantings.

A cooperative farming agreement was issued to Joe Bernhardt to plant 25.4 acres of wheat, 11.2 acres of oats, and 14.4 acres of corn.



The wheat yielded 16 bushels and the oats 27 bushels per acre. The corn was nearly a bust because of the 6/20 frost.

#### IV. RESOURCE MANAGEMENT

Grazing permits were issued to Harris Crimmins (G-1) and Charles Giedd (G-2). The permit for G-1 was for 200 AUM's and ran from 6/1 - 9/30, while the G-2 permit called for a maximum of 130 AUM's from 5/16 - 9/30. Mr. Crimmins utilized 200.74 AUM's for which he paid \$523.93, while Mr. Giedd utilized 99.64 AUM's and he paid \$260.06.

The maximum AUM's have been reduced in G-1 from 200 to 160 starting in 1970.

No haying was permitted this year.

## EASEMENT REFUGE DISTRICT #1

Appert Lake.

When visited on 4/15 the lake was nearly full and it appeared a small amount of water had passed over the emergency spillway. Wildlife observed included 5 mallards, 8 pintails, 4 shovelers, and 1 mourning dove. In addition, 200-250 sandhill cranes were circling low over the south part of the refuge.

KEM Electric Cooperative, of Linton, was granted a right-of-way by BLM to build a transmission line across the refuge. The line was constructed in June and inspected in early July. The line was constructed in compliance with the permit.

Canfield Lake.

Not inspected this year.

Flickertail.

On 8/5 there was still some water (1-2 acres) left behind the dam. There was also a small amount between the dam and the road. About 40 ducks were sitting on the water behind the dam.

Hutchinson Lake.

Not inspected this year but some information was obtained from a neighbor, Mr. Harvey Fettig.

He stated the basin was full of water in April and held good water until August. By that time it had receded about 300'. By freeze-up it had receded about 300' more.

Waterfowl use was good except that only about 25-30 geese used the refuge in the fall. He said several thousand sandhill cranes roosted on the area during the fall months.

Lake George.

The main lake had excellent water all year. The south unit had excellent water in the spring and good water the rest of the year.

Duck use was good with a fall peak of 750-1,000. Hunting pressure was light to moderate.

Lost Lake.

Not inspected this year. The area will be included in the Garrison Diversion project.

Springwater.

When visited on 4/15 there was about 1" of water spilling into the drop chute culvert. There were 10 A. mergansers and 4 pintails on the lake. About 165 sandhill cranes were flying low over the area.

Sunburst.

On 4/8 there was about 4" of water flowing over the spillway. Runoff was nearly complete. Waterfowl included 30 A. mergansers and 25 mallards.

On 7/29 the lake level was about 5" below the spillway, and by freeze-up it was about 10" below.

On 9/18 there was an estimated 110 ducks on Sunburst Lake.

Mr. Roy E. Karvo trapped the Sunburst Refuge and he removed 99 muskrats and 3 mink.

Sign Posting.

All the easement refuges except Lost Lake were checked in September to replace damaged and missing signs.

SIGNATURE PAGE

Submitted by:

Marvin Mansfield  
(Signature)

Marvin Mansfield

Date: March 13, 1970

Refuge Manager  
Title

Approved, Regional Office:

Date: 3-16-70

J. C. Carlen  
(Signature)

Regional Refuge Supervisor

3-1750a

Cor NR-1

(Rev. March 1953)

WATER OWL  
(Continuation Sheet)

REFUGE SladeMONTHS OF JanuaryTO April, 1969

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total
	11	12	13	14	15	16	17	18		
Swans:							2	2	28	
Whistling										
Trumpeter										
Geese:										
Canada <b>Large</b>					75				525	
Cackling <b>Small</b>					30				210	
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard					15	20	30	25	630	
Black										
Gadwall							20	100	810	
Baldpate					5	20	30	15	190	
Pintail					20	20	20	15	525	
Green-winged teal						10	20	20	350	
Blue-winged teal							10	50	120	
Cinnamon teal										
Shoveler					5	10	20	35	190	
Wood										
Redhead						10	30	10	560	
Ring-necked								15	105	
Canvasback						20	30	20	190	
Scaup						90	30	270	4830	
Goldeneye					5	10			105	
Bufflehead					5	10	10	10	215	
Ruddy							30	20	350	
Other <b>A. Merg.</b>						10	5		105	
Coots:							5	40	315	
					(over)					



	(5)	(6)	(7)	
	Total Days Use :	Peak Number :	Total Production :	SUMMARY
Swans	28	2		Principal feeding areas
Geese	735	75		
Ducks	10,535	380		Principal nesting areas
Coots	315	40		
				Reported by <u>Marvin Mansfield, Refuge Manager</u>

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

W. E R F O W L

REFUG Slade Refuge

MONTHS OF May TO August, 19 69

(2)  
Weeks of reporting period

(1) Species	5/1-10 1	11-17 2	18-24 3	25-31 4	6/1-7 5	8-14 6	15-21 7	22-28 8	6/29-7/5 9	6-12 10
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada (Large Flock)	110	110	170	210	220	230	210	210	210	210
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	25	70	90	95	120	150	180	210	220	230
Black										
Gadwall	105	100	90	90	100	120	110	170	190	200
Baldpate	15	10	10	10	10	10	10	20	20	20
Pintail	15	20	10	35	10	45	55	65	80	90
Green-winged teal	20	20	10	10	10	10	10	20	20	20
Blue-winged teal	50	110	170	170	180	200	220	210	250	250
Cinnamon teal										
Shoveler	35	50	60	65	70	80	90	100	120	110
Wood										
Redhead	10	10	10	20	20	25	30	35	40	50
Ring-necked	15	20	20	10	10	10	10	10	15	20
Canvasback	20	20	20	15	20	20	30	30	40	40
Scaup	230	110	60	10	20	10	15	15	20	20
Goldeneye										
Bufflehead	10									
Ruddy	20	20	30	10	30	10	30	30	30	30
Other										
Coot:	315	190	70	50	50	50	50	50	60	70



(Rev. March 1953)

REFUGEE ~~State~~ ~~of~~ ~~the~~

MONTHS OF May TO August, 19 69

(1) Species	(2) Weeks of reporting period							(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen: total	
	7-13-19 11	20-26 12	27-3/2 13	3-9 14	10-16 15	17-23 16	24-30 17	18		
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada (Refuge Flock)	210	210	210	210	210	230	230	26,130	19	97
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	210	180	150	130	120	110	100	16,730	6	130
Black										
Cadwall	210	200	170	110	100	90	70	15,995	9	110
Baldpate	20	20	20	20	20	20	15	1,890	0	10
Pintail	50	70	60	50	10	30	25	5,010	0	50
Green-winged teal	20	20	25	10	10	10	10	1,750	0	10
Blue-winged teal	250	300	350	300	200	150	80	21,290	1	100
Cinnamon teal										
Shoveler	120	100	70	40	20	10	10	8,260	3	80
Wood										
Redhead	50	50	50	50	50	10	10	1,620	5	90
Ring-necked	25	20	30	30	10	10	50	2,590	0	10
Canvasback	10	10	50	50	70	80	90	1,725	1	25
Scaup	25	25	10	60	75	90	105	6,580	1	15
Goldeneye										
Bufflehead										
Ruddy	10	50	60	70	50	30	25	1,235	3	50
Other										
Coots:	90	110	120	170	210	330	520	17,715	8	75
					(over)					



	(5)	(6)	(7)	SUMMARY
	Total Days Use :	Peak Number :	Total Production :	
Swans	:	:	:	Principal feeding areas <u>Headquarters Lake, South Marsh,</u>
Geese	<u>26,110</u>	<u>210</u>	<u>97</u>	<u>Harriet Lake</u>
Ducks	<u>97,515</u>	<u>1,110</u>	<u>730</u>	Principal nesting areas <u>Headquarters Lake, South Marsh,</u>
Coots	<u>17,715</u>	<u>520</u>	<u>75</u>	<u>Goose Pen</u>
				Reported by <u>Martin Hamfield</u>

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

REFUGE Slade Refuge

MONTHS OF September TO December, 19 <sup>69</sup>

(1) Species	(2) Weeks of reporting period									
	8/31-9/6 1	9/7-13 2	9/14-20 3	9/21-27 4	9/28-10/4 5	10/5-11 6	10/12-18 7	10/19-25 8	10/26-11/1 9	11/2-8 10
Swans:						10	15	25	25	25
Whistling										
Trumpeter										
Geese:										
Canada Large (Ref.)	230	230	230	230	230	230	230	230	230	230
Cackling Small								70	70	90
Brant										
White-fronted						7				
Snow										
Blue										
Other										
Ducks:										
Mallard	120	130	190	280	410	540	720	870	100	1,030
Black										
Gadwall	50	20	30	30	20	20	20	20	-	15
Baldpate	20	20	30	40	20	30	30	25	-	-
Pintail	20	20	30	30	30	40	40	40	10	10
Green-winged teal	10	20	40	60	70	60	50	45	10	10
Blue-winged teal	60	50	50	40	30	20	20	10	-	-
Cinnamon teal										
Shoveler	10	30	50	80	100	90	70	50	15	30
Wood										
Redhead	440	620	750	800	760	710	440	200	70	90
Ring-necked	85	90	110	130	135	120	90	35	10	20
Canvasback	100	100	80	60	20	20	20	10	-	-
Scaup	265	240	130	80	50	70	150	100	30	990
Goldeneye										5
Bufflehead					10	20	40	55	20	70
Ruddy	40	50	60	70	75	70	50	40	5	20
Other A. Merg.										10
Coot:	850	860	880	900	910	930	850	790	100	60



3-1750a  
 Con+ NR-1  
 (Re.. March 1953)

WATER OWL  
 (Continuation Sheet)

REFUGE Slade Refuge

MONTHS OF September TO December, 19 69

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total
	11/9-15 11	11/16-22 12	23-29 13	30-6 14	7-13 15	14-20 16	21-27 17	28-1/3 18		
Swans:										
Whistling	25								875	
Trumpeter										
Geese:										
Canada Large (Ref.)	228	210	204	188	171	171	171	171	26,698	
Cackling Small	90								2,240	
Brant										
White-fronted									119	
Snow										
Blue										
Other										
Ducks:										
Mallard	1,030	170	50	50					39,830	
Black										
Gadwall									1,575	
Baldpate									1,505	
Pintail									1,890	
Green-winged teal									2,625	
Blue-winged teal									1,960	
Cinnamon teal										
Shoveler									3,675	
Wood										
Redhead	80								34,720	
Ring-necked	10								5,845	
Canvasback									2,870	
Scaup	900								21,595	
Goldeneye	5								70	
Bufflehead	60								1,925	
Ruddy	10								3,430	
Other A. Merg.	10								140	
Coots:	50								50,260	
					(over)					

	(5) Total Days Use	(6) Peak Number	(7) Total Production	SUMMARY
Swans	875	25		Principal feeding areas <u>Harker Lake, Headquarters Lake,</u>
Geese	28,987	318		<u>South Marsh.</u>
Ducks	123,655	2,300		Principal nesting areas _____
Coots	50,260	930		
				Reported by <u>Marvin Mansfield</u>

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).



3-1751  
Form NR-  
(Nov. 1945)

MIGRATING BIRDS  
(other than waterfowl)

Refuge 122

Months of April to 195

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Western Grebe	6	1/23	6	1/23						10
White Pelican	13	1/23	13	1/23						15
Double-crested Cormorant	7	1/22	20	1/30						30
Black-crowned Night -										20
Heron	1	1/23	15	1/30						1,000
Sandhill Crane	250	1/7	1500	1/21						
* Migrating										
II. <u>Shorebirds, Gulls and Terns:</u>										
Ring-billed Gull	1	1/3	15	1/6						250
Herring Gull	2	1/30	2	1/30						5
Pillager	1	2/22	2	1/23						

(over)

(1)	(2)		(3)		(4)		(5)		(6)
III. <u>Doves and Pigeons:</u>									
Mourning dove	1	1/10	15	1/30					25
White-winged dove									
IV. <u>Predaceous Birds:</u>									
Golden eagle	1	1/5	1	1/5					1
Duck hawk									
Horned owl	1-2	Present throughout the period							
Magpie									
Raven									
Crow	1	3/17	15	1/10					250
Bald Eagle	1	3/18	1	3/18					1
Screech Owl	1	3/21	1	3/21					1
Marsh Hawk	1	3/22	3	1/9					10
Rough-legged Hawk	1	1/7	1	1/7					3
Reported by <u>Herold Hunsfield, Refuge Ranger</u>									

#### INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.



3-1751  
Form NR-  
(Nov. 1945)

MIGRATORY BIRDS  
(other than waterfowl)

Refuge Slade

Months of May to August 1956

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Eared Grebe	15	5/2	15	5/2						30
Pied-billed Grebe	4	5/14	55	8/30					40	85
Western Grebe			25	7/11						40
White Pelican			26	7/12	3	8/28				50
Double-crested Cormorant			20	5/2						40
Great Blue Heron	1	5/16	2	8/28						5
B. C. Night Heron			9	5/29					5	20
American Bittern			3	5/12						8
II. <u>Shorebirds, Gulls and Terns:</u>										
Herring Gull	8	5/2	20	5/29						35
Ring-billed Gull			45	6/15						20
Franklin's Gull	15	5/12	400	8/30						500
Marbled Godwit			4	5/26						8
Killdeer			10	8/30						20
Common Tern	4	5/2	20	8/28						20
Black Tern	3	5/12	18	8/28						20

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u> Mourning dove White-winged dove		70	August	15	160
IV. <u>Predaceous Birds:</u> Golden eagle Duck hawk Horned owl Magpie Raven Crow Marsh hawk Red-tailed hawk Sparrow hawk Short-eared Owl	1-3	Present throughout period			
	1	5	6/20	3	10
	4	2	8/29		5
		4	8/29		8
		4	7/11	4	10
Reported by <u>Marvin Mansfield</u>					

#### INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
II. Shorebirds, Gulls and Terns (Charadriiformes)  
III. Doves and Pigeons (Columbiformes)  
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.



3-1751

Form NR-

(Nov. 1945)

MIGRATORY BIRDS  
(other than waterfowl)Refuge SladeMonths of Sept. to December 195 69

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Pied-billed Grebe			41	9/5	7	10/20				75
Western Grebe			8	9/5	8	9/5				25
White Pelican			8	9/5	8	9/5				10
Double-crested Cormorant			8	10/3	8	10/3				20
B. C. Night Heron			4	9/17	4	9/17				6
American Bittern			2	10/3	2	10/3				5
Sandhill Crane*			15,000	10/5	1,500	11/12				25,000
II. <u>Shorebirds, Gulls and Terns:</u>										
Ring-billed Gull			70	10/3	70	10/29				100
Franklin's Gull			900	10/3	900	10/3				1,500
Killdeer			10	9/3	10	9/3				20
Ivoret			5	10/29	2	11/5				15
*North of Dawson										

(over)

(1)	(2)	(3)		(4)		(5)			(6)
III. <u>Doves and Pigeons:</u>									
Mourning dove		50	9/1	1	10/20				70
White-winged dove									
IV. <u>Predaceous Birds:</u>									
Golden eagle									
Duck hawk									
Horned owl		1-3 Present throughout period							
Magpie		1	12/20	1	12/20				2
Raven									
Crow									
Marsh Hawk		4	10/20	1	11/5				10
Red-tailed Hawk		1	10/10	1	10/10				2
Short-eared Owl		1	11/5	1	11/5				4
Reported by						Marvin Mansfield			

#### INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
II. Shorebirds, Gulls and Terns (Charadriiformes)  
III. Doves and Pigeons (Columbiformes)  
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge State For 12-month period ending August 31, 1960

Reported by Marshall Title Refuge Manager

(1) Area or Unit Designation	(2) Habitat		(3) Use-days	(4) Breeding Population	(5) Production
	Type	Acreage			
I	Crops	70	Ducks	31,117	98
	Upland	435	Geese		125
	Marsh	35	Swans		
	Water	80	Coots	16,501	21
	Total	600	Total	47,618	119
II	Crops	30	Ducks	57,131	115
	Upland	130	Geese	26,978	97
	Marsh	10	Swans	117	
	Water	70	Coots	721	15
	Total	600	Total	85,207	227
III	Crops	100	Ducks	63,151	160
	Upland	600	Geese		230
	Marsh	110	Swans	701	
	Water	355	Coots	5,213	15
	Total	1,235	Total	69,181	235
IV	Crops	135	Ducks	36,355	190
	Upland	315	Geese		250
	Marsh	130	Swans		
	Water	85	Coots	21,332	21
	Total	665	Total	57,757	271
TOTALS	Crops	315	Ducks	91,330	532
	Upland	1,230	Geese	26,978	97
	Marsh	265	Swans	931	
	Water	600	Coots	73,220	25
	Total	3,000	Total	93,259	654
See 1965 NR-1B for description of above units.	Crops		Ducks		(1)
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		(1)
	Crops		Ducks		
	Upland		Geese		
	Marsh		Swans		
	Water		Coots		
	Total		Total		

(over)



## INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

(1) **Area or Unit:** A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.

(2) **Habitat:** Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh some to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.

(3) **Use-days:** Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.

(4) **Breeding Population:** An estimate of the total breeding population of each category of birds for each area or unit.

(5) **Production:** Estimated total number of young raised to flight age.



3-175  
Form W-2  
(April 1946)

UPLAND GAME BIRDS

1613

Refuge Slade

Months of January to April, 1949

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	Crop - 300 Acres Grass and Marsh - 2,100 Acres	240			50:50				10	
Sharp-tailed Grouse	" " "	18			50:50				50	
Gray Partridge	" " "	120			50:50				20	



## INSTRUCTIONS

### Form NR-2 - UPLAND GAME BIRDS.\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\* Only columns applicable to the period covered should be used.



3-175

Form RR-2

(April 1946)

## UPLAND GAME BIRDS

1613

Refuge SiadeMonths of July to August, 1949

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	Crop - 300 Acres Grass & Marsh 2,100 Acres	160	0	6	50:50				15	
Sharp-tailed Grouse	" " " "	53	1	20	50:50				45	
Gray Partridge	" " " "	96	1	20	50:50				25	



## INSTRUCTIONS

### Form NR-2 - UPLAND GAME BIRDS.\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\* Only columns applicable to the period covered should be used.



3-17

Form AR-2

(April 1946)

## UPLAND GAME BIRDS

1613

Refuge SladeMonths of September to December, 19469

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	Crop - 300 acres Grass & Marsh 2,100 acres	160			50:50				15	
Sharp-tailed Grouse	" " "	34			50:50				70	
Gray Partridge	" " "	120			50:50				20	



## INSTRUCTIONS

### Form NR-2 - UPLAND GAME BIRDS.\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\* Only columns applicable to the period covered should be used.



3-17  
Form NR-3  
(June 1945)

BIG GAME

Refuge Slade

Calendar Year 1969

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	
White-tailed Deer	Crop - 300 Acres, Grass & Marsh - 2,100 acres, Trees & Brush 50 acres	10	4									20	5	1:3

Remarks:

Reported by Harvin Mansfield, Refuge Manager



## INSTRUCTIONS

### Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.
- (2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.
- (4) REMOVALS: Indicate total number in each category removed during the year.
- (5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE POPULATION: Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.
- (8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

116000



3-1754  
Form NM-4  
(June 1945)

SMALL MAMMALS

Refuge Slade

Year ending April 30, 1969

(1) *Species	(2) Density	(3) Removals						(4) Disposition of Furs					(5) Total Popula- tion	
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator * Control	For Re- stocking	For Re- search	Share Trapping			Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	
								Permit Number	Trappers' Share	Refuge share				
Mink				None				None						6
Weasel (long-tailed)				"										6
Muskrat				"										5
Raccoon					6									10
Striped Skunk					7									10
Red Fox					1									6
Badger					0									5

\* List removals by Predator Animal Hunter

\* List removals by Predator Animal Hunter

REMARKS:

Reported by Marvin Mansfield, Refuge Manager



# INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- | SPECIES:            | Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)  |
|---------------------|--|
| DENSITY:            | Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks. |
| REMOVALS:           | Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.   |
| DISPOSITION OF FUR: | On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.  |
| TOTAL POPULATION:   | Estimated total population of each species reported on as of April 30.   |
| REMARKS:            | Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.  |

3-1755  
For R-5

DISE

Refuge Slade

Year 1969

Botulism

Lead Poisoning or other Disease

Period of outbreak NONE

Period of heaviest losses \_\_\_\_\_

Losses:

	Actual Count	Estimated
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Areas affected (location and approximate acreage) \_\_\_\_\_

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.) \_\_\_\_\_

Condition of vegetation and invertebrate life \_\_\_\_\_

Remarks \_\_\_\_\_

Kind of disease NONE

Species affected \_\_\_\_\_

Number Affected Species	Actual Count	Estimated
_____	_____	_____
_____	_____	_____
_____	_____	_____

Number Recovered \_\_\_\_\_

Number lost \_\_\_\_\_

Source of infection \_\_\_\_\_

Water conditions \_\_\_\_\_

Food conditions \_\_\_\_\_

Remarks \_\_\_\_\_



3-1757  
Form NR-  
Rev. June 1960)

NONAGRICULTURAL COLLECTION RECEIPTS, AND PLANTINGS

(1)

Refuge Slade

Year 19 69

	Collections and Receipts (Seeds, rootstocks, trees, shrubs)						Plantings (Marsh - Aquatic - Upland)						
Species	Amount (Lbs., bus., etc.)	(2) C or R	Date	Method or Source	Cost	(3) Total Amount on Hand	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount and Nature of Propagules	Date	Survival	Cause of Loss
Colo. Blue Spruce	1,000 Seedlings	R	4/30	Purchase	\$45.00	None	Headquarters Shelterbelt NW Slough Shalterbelt	750/ac. 750/ac.	1 ac. 1/3 ac.	750 (Seedlings) 250 (Seedlings)	5/1 5/1	90% 90%	? ?
Eastern Red Cedar	200 Seedlings	R	4/30	Purchase	\$9.00	None	NW Slough Shelterbelt	600/ac.	1/3 ac.	200 (Seedlings)	5/2	90%	?
Russian Olive	300 Seedlings	R	4/30	Purchase	\$13.50	None	Headquarters Shelterbelt	600/ac.	1/2 ac.	300 (Seedlings)	5/2	90%	?

- (1) Report agronomic farm crops on Form NR-8  
(2) C = Collections and R = Receipts  
(3) Use "S" to denote surplus

Remarks:

Total acreage planted:

Marsh and aquatic

Hedgerows, cover patches

Food strips, food patches

Forest plantings

Shelterbelts 2 1/6 Ac.

3-1758  
Form NR  
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Slade

County Kidder

State North Dakota

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Water- fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested		Unharvested				
			Acres	Bu./Tons	Acres	Bu./Tons			
Wheat	93.3	1,026 bu.	31.6	710 bu.	24.9	373 bu.	93.3	Sweet Clover Alfalfa	31.3
Oats	79.5	3,975 bu.					79.5		23.4
Barley	24.1	530 bu.					55.7		
Corn							24.9		
								Fallow Ag. Land	3.5

No. of Permittees: Agricultural Operations 2 Haying Operations 0 Grazing Operations 4

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle	137	347.14	906.04	710
				2. Other				
				1. Total Refuge Acreage Under Cultivation				311.6
Hay - Wild				2. Acreage Cultivated as Service Operation				0



DIRECTIONS FOR PREPARING FORM NR-8  
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

3-1758

Form NR-8

(Rev. Jan. 1956)

Fish and Wildlife Service

Branch of Wildlife Refuges

## CULTIVATED CROPS - HAYING - GRAZING

Refuge Florence LakeCounty BurleighState North Dakota

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Water- fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested		Unharvested				
			Acres	Bu./Tons	Acres	Bu./Tons			
Wheat	25.4	508 bu.					25.4	Sweet Clover	7.0
Oats	11.2	560 bu.			14.4	0*	11.2		
Corn							14.4		
						*Froze out		Fallow Ag. Land	14.0

No. of Permittees: Agricultural Operations 1 Haying Operations 0 Grazing Operations 2

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle	112	300.38	783.99	960
				2. Other				
				1. Total Refuge Acreage Under Cultivation				72
Hay - Wild				2. Acreage Cultivated as Service Operation				0



DIRECTIONS FOR PREPARING FORM NR-8  
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

## REFUGE GRAIN REPORT

Refuge **Slade**.....

Months of January thru December ~~194~~ 194

(1)	(2)	(3)	(4)	(5)				(6)	(7)		
VARIETY	ON HAND BEGINNING OF PERIOD	RECEIVED DURING PERIOD	TOTAL	GRAIN DISPOSED OF				ON HAND END OF PERIOD	PROPOSED USE		
				TRANS- FERRED	SEEDED	FED	TOTAL		SEED	FEED	SURP.
Millet		5	5					5		5	
Shelled Corn		175	175			23	23	152		152	
Barley	687	710	1,397			781	781	616		616	

(8) Indicate shipping or collection points.....

(9) Grain is stored at Slade Refuge

(10) Remarks \_\_\_\_\_



NR-8a

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lbs., Corn (ear)—70 lbs., Wheat—60 lbs., Barley—50 lbs., Rye—55 lbs., Oats—30 lbs., Soy Beans—60 lbs., Millet—50 lbs., Cowpeas—60 lbs., and Mixed—50 lbs. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately: Corn, wheat, proso millet, etc. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share-cropping, or harvest from food patches.
- (4) A total of Columns 2 and 3.
- (6) Column 4 less Column 5.
- (7) This is a proposed breakdown by varieties of grain listed in Column 6.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters grainary", etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.



ANNUAL REPORT OF PERSTICIDE APPLICATION

Proposal Number

Reporting Year

1969

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6/3	Leafy Spurge	6 scattered patches ranging in size from 10 sq. ft. to 200 sq. ft.	0.02	Tordon	1/4 pint	4 lbs./ac.	Water 100 gal./ac.	Hand pump
7/1	Poison Ivy	Rec. Area. Many small patches	0.05	Trysben 200	1 pint	5 lbs./ac.	Water 25 gal./ac.	Hand pump
7/17	Leafy Spurge	6 scattered patches ranging in size from 10 sq. ft. to 100 sq. ft.	0.01	Tordon	1/8 pint	4 lbs./ac.	Water 100 gal./ac.	Hand pump

10. Summary of results (continue on reverse side, if necessary)

(a) First years results: (Spurge)

1. Date and amount of first rainfall
2. Date of first observation
3. Date of first effects noted
4. Character of symptoms
5. Date of examination and percent of apparent kill
6. Date of follow-up observation and percent regrowth
7. Date of examination and percent of real kill
8. Cost of chemical, equipment, labor: total and per acre cost

1. 6/10 .10"
2. 6/17
3. 6/17
4. Plants wilted and turning brown
5. 7/7 95%
6. 8/11 10%
7. 8/11 90%
8. \$1.75; \$2.50; \$4.75 —  
Total \$9.00 or \$450.00/ac.

First years results: (Poison Ivy)

1. Date and amount of first rainfall
2. Date of first observation
3. Date of first effects noted
4. Character of symptoms
5. Date of examination and percent of apparent kill
6. Date of follow-up observation and percent regrowth
7. Date of examination and percent of real kill
8. Cost of chemical, equipment, labor: total and per acre cost

1. 7/3 .25"
2. 7/11
3. 7/11
4. Yellow and shriveled leaves
5. 7/17 85%
6. 8/6 20%
7. 8/6 80%
8. \$1.13; \$1.50; \$2.10 --  
Total \$5.03 or \$100.63/ac.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Application	Rate (lb/acre)	Time of year	Time of day	Weather	Direction of wind	Speed of wind	Temperature	Humidity
10/1	100 lb/acre	10:00 AM	10:00 AM	Clear	SE	10 mph	75°F	50%
10/2	100 lb/acre	10:00 AM	10:00 AM	Clear	SE	10 mph	75°F	50%
10/3	100 lb/acre	10:00 AM	10:00 AM	Clear	SE	10 mph	75°F	50%

INSTRUCTIONS: Fill in the blanks with the following information:

ANNUAL REPORT OF PESTICIDE APPLICATION

Form 100  
1-10-10 (10-10)

Printed by the Agricultural Research Service

Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

Wilmer Brandt at his desk. The only clerk I know that has two desks. His other one is at Long Lake Refuge. He is responsible for all the paper work at Slade and Long Lake Refuges and Slade WPA's.

February, 1970

Wright

Ted Schauer working on goose nesting platforms in the Slade Shop. Ted has the maintenance load for the above areas. Take away either one of these fellows and the whole operation is in trouble.

February, 1970

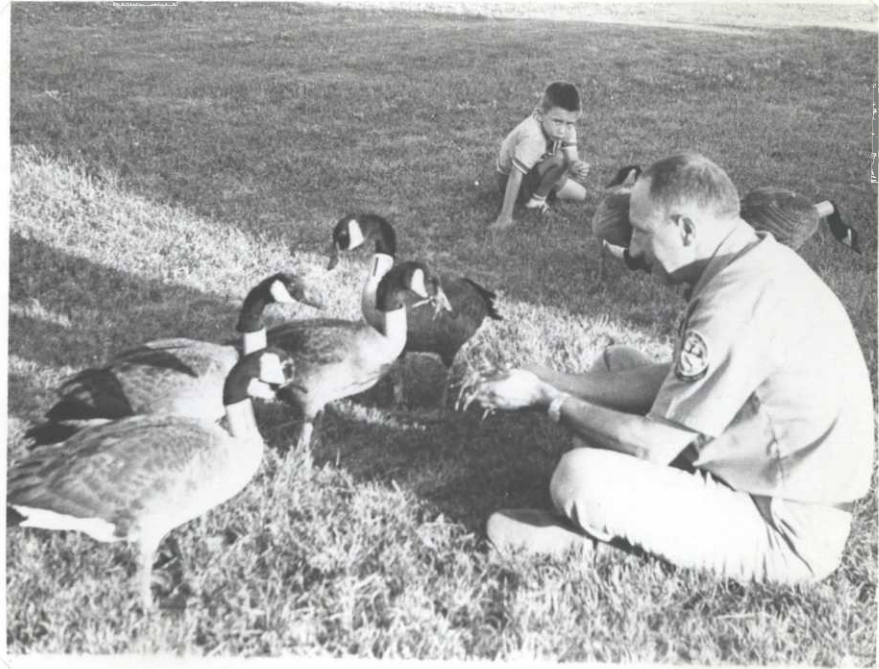
Brandt





The manager feeds grass to the hand-raised goslings.  
Son Darin in the background.  
6-69-15                      8/5/69                      Bev Mansfield

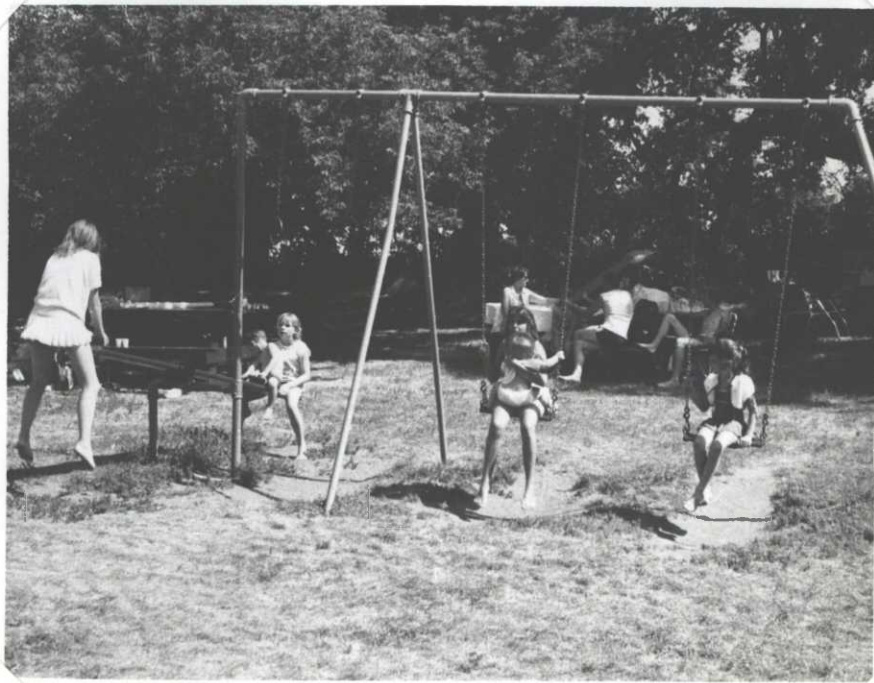
Bob Wright, another man with lots of responsibilities. He lives at Long Lake Refuge but his work covers all areas except Slade Refuge.  
February, 1970                      Brandt





Swimming activity in Lake Isabel at the Slade  
Refuge Recreation Area.  
August, 1969 Mansfield

Part of the picnic grounds at the Recreation  
Area. It is not unusual to have 1,000 people  
use the area on a good Sunday or holiday.  
August, 1969 Mansfield



A portion of the winter goose pen. Snow was nearly 3' deep over most of the pen. Protection is on the west and north, but most of the snow came from the southeast.

2-29-12

3/3/69

Mansfield

Cars parked at the boat launching site of the Recreation Area.

August, 1969

Mansfield





$$4-49=2$$

5/29/69

Mansfield

7-69-20

12/3/69

Mansfield



JUL • 69





Ferruginous hawk keeping track of the hand-raised  
geese.

6-69-6

8/5/69

Mansfield

The geese were too tame and the flyers stayed  
around the yard after we moved the non-flyers  
to the winter pen.

7-69-12

10/24/69

Mansfield



Pair of giant Canada geese at nest, female brooding  
young. Taken in the large summer pen.  
3-39-6                      5/20/69                      Mansfield

Close-up of same female.  
3-39-10 5/20/69

Mansfield





5-69-6

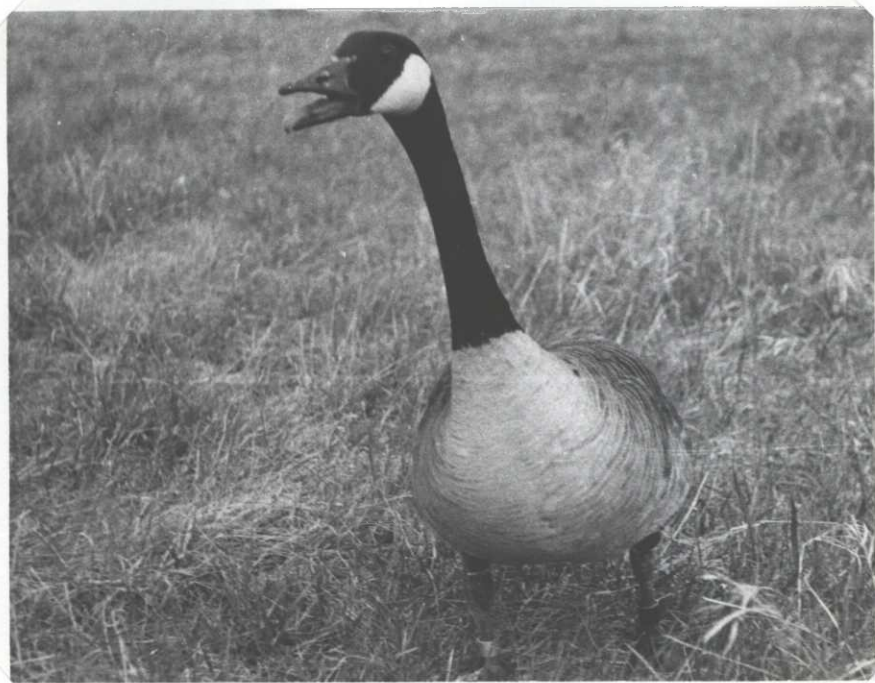
7/17/69

Mansfield

3-69-11

5/20/69

Mansfield





5-69-5

7/17/69

Mansfield

5-69-0

7/17/69

Mansfield



Ferruginous rough-legged hawk. His "story" can  
be found on page 11.

6-69-3 (top)

6-69-4 (bottom)

8/5/69

Mansfield





"Mama Hottman with hand-raised goslings in  
pursuit.  
July, 1969

Ed Bry





Flock of geese in summer pen.  
August, 1969

Ed Bry





## BUREAU OF SPORT FISHERIES AND WILDLIFE

## INTER-OFFICE TRANSMITTAL

30930

☒ Director, BSFW, Washington, D. C. (RF) \_\_\_\_\_  
☐ Regional Director, \_\_\_\_\_  
☐ Project Leader, \_\_\_\_\_  
☐ \_\_\_\_\_

☒ Regular Mail  
☐ Air Mail  
☐ Action  
☐ Information

From

Division of Refuges

Office

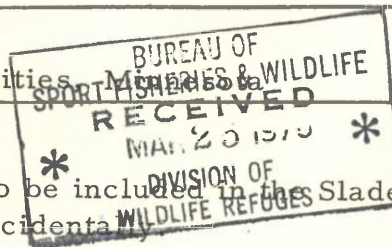
Twin Cities

Date

3-23-70

Subject

Attached are news releases which are to be included in the Slade Refuge  
Narrative Report which were left out accidentally.



3-1908

(Attach securely to material to be transmitted &amp; mail through regular channels)





**John  
Lohman**

## ***Slade Refuge Goose Flock Reluctant to Journey South***

It appears Slade National Wildlife Refuge near Dawson, N.D., may winter a larger flock of Canada geese than anticipated.

Refuge manager Marvin Mansfield tallied 171 of the large Canadas in his latest count, and there didn't seem to be much indication the big birds were going to make the hope for exodus south. It had been hoped all but 40 of the birds would migrate.

The birds are part of a flock of giant Canada geese established at the refuge earlier this year. The refuge obtained 142 adults from the Northern Prairie Wildlife Research Center at Jamestown, N.D., last spring, and these birds produced 97 goslings.

The flock is being established at the refuge in an attempt to reintroduce a flock of nesting large Canadas in the Kidder County area. Similar flocks have been established at J. Clark Salyer and Audubon refuges in North Dakota and near Fergus Falls and other areas in Minnesota.

Mansfield said since late November the number of birds counted weekly has dropped, from 210 to 204, 188 and then to 171. "We can only assume that (those gone) have left in small groups." He knew of only one bird being taken by a hunter. A report that geese from Slade had turned up at Alexandria, Minn., turned out to be false.

The remaining Slade geese are receiving food and water handouts and show no inclination to leave. Mansfield said the birds are strong and have been making flights around the refuge.

Refuge personnel had attempted to spur the geese into migrating earlier in the fall by chasing them around and keeping them away from the pens.

But when a small snow storm struck the refuge Nov. 13, seven of the large birds froze in and died. Mansfield said it was felt the birds died of starvation and not the elements and thus the return to feeding them. This, he admitted, may be one reason the geese did not migrate.

Other possible reasons for the geese not moving south are their attachment to the refuge and the movement of few geese through the refuge area this fall to spur the migration instinct.

All is not lost, however. If the big birds don't move out they will be taken care of during the winter and turned out to nest in the spring. Just maybe next fall more of the big birds will pack up and head south and another successful start will be made on a flock of giant Canadas.



## He's a Rare Bird, Indeed



### The Canada Goose Is Flying Again Across America

Once, in 1950, it was thought that the sight of the giant goose pushing himself southward by the metronome beat of his huge wings was lost to humanity forever. The Canada Goose was extinct, men said.

But not so. One of the last nesting places—in Kidder County—was found and so were some geese.

Marvin Mansfield, right, holds one of the giant birds (they often reach weights of 20 pounds). This year, at the area he manages, 190 goslings were raised and about 200 birds are expected to migrate. Many will carry the bands, left, around their necks that identify them to game managers.





# Once Thought to Be Extinct

# Being Welcomed Back to State

2 free tickets from The Bismarck Tribune to see the movie "Whatever Happened to Aunt Alice" showing at the Bismarck Theatre now thru September 30. Just present this ad with your identification at the ticket window.

**21—Livestock, Poultry, Pets**

WILL TAKE 100 COWS TO WINTER. Close to Bismarck. Write Tribune Ad No. 96143 c/o Bismarck Tribune. (21)

STUD SERVICE. BLACK, AKC MINIA-ture poodle. Call 255-1793 or 223-6673 after 5.

NEED GOOD HOME FOR EXCELLENT AKC breeding stock poodles. No in-vestment, loving care. References re-quired. Supplement your income by cash or shares. 223-5798.

PURCHASED SAINT BERNARDS. MRS. Bob Smith, Route 6, Mandan. (21)

REGISTERED 3/4 ARABIAN, 1/4 Mare. Also 1969 Filly colt. 663-5743. (21)

**22—Farmers Miscellaneous**

300-GALLON SUNSET BULK TANK. 5 years old. Asking price, \$1100. Call Leslie Stewart. 673-4862. (22)

**MERCHANDISE**

**23—Boats - Outboard Motors**

**Indoor Boat Storage**

Reasonable. Call 223-8209 days.

Call 663-3872 evenings.

**23-A—Camper**

1965 TRAVEL TRAILER. STOVE, refrigerator, toilet. Sleeps 6. Car-peted. 1841 Bell Street or call 223-6421 after 6:00 p.m. (23a)

3 BRANDS OF PICKUP COVERS. ALSO mobile Traveler campers. Telescop-ing Travel Trailers by Tow Low. 2119 Avenue E. Call 223-7952. (23a)

**25—Mds. - Household Goods**

**THIS WEEK'S SPECIAL**

3/4 size and 6-year cribs. Choice of natural or walnut.

**\$39.95 and \$44.95**

With Mattress.

**MANDAN FURNITURE**

Next to Lewis and Clark Hotel

**GOOD USED REFRIGERATORS. LWN.**

Write box 9638 c/o Bismarck Trib-une

**16—Forms - Sale - Rent**

**FARM - RANCH**

EXCAVATING, TRENCHING, LAND-scaping. Top soil, manure, gravel and other home improvements. Jeffrey Lynn Co., 223-0699. (15)

CULTURED KENTUCKY BLUE GRASS sod. Call Charles Umpleby, New Lawn Service. 663-6252. (15)

**15—Yard Work, Landscaping**

MOTHER, WITH ALL CHILDREN IN school will care for children at her home. 223-7865. (14)

WANTED TO LIVE IN PRIVATE home. Roosevelt Area. 223-9537. (14)

WOULD LIKE TO BABYSIT IN MY home. Call 255-3244. (14)

WILL DO BABYSITTING IN MY home. Have own transportation. Call 255-0537. (14)

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FOR PROFESSIONAL ROOFING, CALL 255-3491, evenings after 6, or write Box 80, Bismarck, North Dakota. (14)

BRICK AND BLOCK LAYING. ALSO concrete work, driveways, sidewalks, steps. Chimneys rebuilt. 223-8951. (14)

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UPHOLSTERY, FREE PICKUP AND delivery. Nice fabric selection and free estimates. 663-9288. (14)

**14—Work Wanted**

Straub's Upholstery

Work wanted.

Call 255-0594.

608 South 11th Street.

**Apparel Representative**

Wanted for state of North Da-kota to sell brand line of children's, girls' and women's apparel (Bluebell, Kickaways, Sugar and Spice). Exceptional opportunity for the right man. Send complete resume to Mr. Dick Bramwell c/o Hayman Corp., 400 - 1st Avenue North, Minneapolis, Minn. 55401.

**Experienced Industrial Salesman Wanted**

to sell light industrial construction equipment. Contact Manager, Bismarck Implement Company.

**13—Salesmen - Saleswomen**

40 hours. 54-hour week. No phone calls. apply Bill's Husky, on 1-94, exit 35.

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**WANTED: COOK, BARTENDER, AND waitress.** All must be non-drinkers and reliable. Good wages. Contact Cross Roads Inn Night Club, Miles City, Montana. 222-9999. (12)

**FULL TIME DISHWASHER. NO EX-perience needed.** Night shift. Apply at Kroil's Kitchen, 1915 East Main. (12)

**We are seeking an am-bitious man interested in ment trainee program.** Please apply in person to Mr. Gene Schell

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An Equal Opportunity Employer

**Earn \$20 to \$30 Per Day**

Deliver free samples in your area. Insured automobile re-quired. 18 or older. No selling. An equal opportunity employer. See Mr. Kautz at the State Em-

**MOTHERS! LET US PAY YOU \$50 A WEEK** or more showing World Book children to families in your area. 15 to 20 hours a week. This is not a commission job, but a weekly salary. It also gives you an opportunity to get your own personal set at no cash outlay. For more information without obligation write, Robert Peido, 124 North University Drive, Fargo, North Dakota. 58102. (12)

**FULL OR PART TIME, MALE HELP** wanted for Bismarck's newest fun center. Must be 21 or over. See Man-ager at Snoopy's Pizza and Subs, 311 p.m. (12)

**BABYSITTER WANTED TO TAKE CARE** of 11-year-old child nights. Call be-tween 8 and 9 a.m. 255-1009. (12)



Giant Canada Geese Flock at Slade National Wildlife Refuge

—(Photo by Leo LaLonde)

coy flocks. One breeder is Carl one of the oldest giant Canada ting back to the 1890s when his birds," Mansfield noted. "The estimated at less than 10,000

d Fish commissioner Russell of a giant Canada comeback in ing." He recalled his surprise being shot in the 1940s.

y commissioner, had related to -18 pound geese in the Kidder pycock then," Stuart chuckled.

mark-Minot area. Will train man with account-ing or casualty insurance background. Salary and good incentive bonus. New company car after 6 months. Contact Bob Carver at the Colonial Motel, Bismarck, anytime Wednesday, Thursday or Friday until noon. Phone 663-9824 for appoint-ment. ATWELL, VOGEL & STERLING, 5300 Glen-wood Avenue North, Minneapolis, Minnesota 55422.



Bismarck Tribune 11/5/69  
**\$2,300 Grant to County  
Will Go to Wildlife Land**

Burleigh County has received \$2,376.85 from the federal Department of the Interior for setting aside lands for wildlife. The money must be used solely for

public schools and roads.

Checks were recently distributed to five counties, including Burleigh, having federal lands administered from Slade National Wildlife Refuge at Dawson. The lands are waterfowl production areas and national wildlife refuges.

Refuge manager Marvin Mansfield said three of the five counties increased land acquired for wildlife over 1968, and therefore received more money from the federal government.





DEPARTMENT OF THE INTERIOR  
Fish and Wildlife Service Regional Information

BUREAU OF SPORT FISHERIES AND WILDLIFE

Slade National Wildlife Refuge  
Dawson, North Dakota

COUNTIES RECEIVE MONEY FOR FEDERAL LANDS

DAWSON -- Checks were recently distributed to the five counties which have Federal lands administered from Slade National Wildlife Refuge at Dawson. These lands consist of Waterfowl Production Areas and National Wildlife Refuges.

Refuge Manager Marvin Mansfield reports three of the five counties received an increase over 1968. This resulted from an increase in land acquired for wildlife purposes.

The County check amounted to . Mr. Mansfield said the funds must be used solely for the benefit of public schools and roads.

<u>Counties</u>	<u>Sent to</u>	<u>Date</u>
Furleigh - \$2,376.85	Bismarck Tribune, Bismarck, N. Dak.	11/3/69
Emmons - 716.55	Emmons County Record, Linton, N. Dak.	10/30/69
Kidder - 2,086.97	Steele Ozone, Steele, N. Dak.	10/30/69
Logan - 947.93	Napoleon Homestead, Napoleon, N. Dak.	10/30/69
McIntosh - 786.41	Ashley Tribune, Ashley, N. Dak.	10/30/69
	Wishok Star, Wishek, N. Dak.	10/30/69

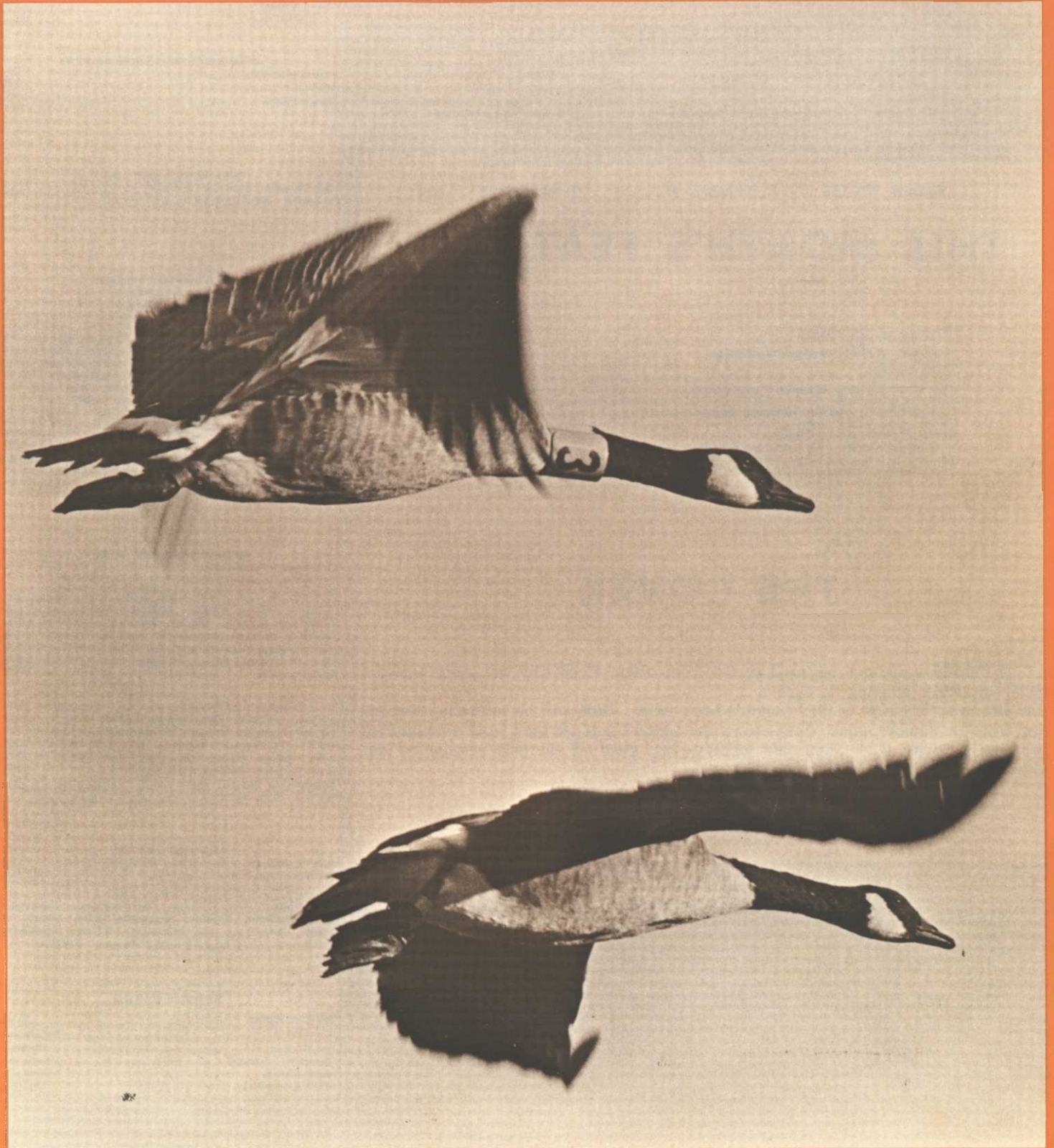


NORTH DAKOTA

OCTOBER 1969

# OUTDOORS

25¢





# North Dakota Outdoors

## Official Publication of the State Game and Fish Department

### Bismarck, North Dakota

58501

Edited under the supervision of  
Russell W. Stuart, Game and Fish Commissioner

Editor: Ed Bry

Volume XXXII

Number 4

October 1969

## THIS MONTH'S FEATURES

Return of the Giant! . . . . .	1
A Look at Ducks and Hunting . . . . .	6
Fire Danger . . . . .	7
Do You Really Know Your Geese? . . . . .	8
Signposts of North Dakota History . . . . .	14
Help From the Clergy . . . . .	20
4-H Junior Club Works to Improve Area . . . . .	22
Red Cross Safety Tips . . . . .	23

## THE COVER

Two Canada geese are featured on the front cover. Read why one goose wears a collar in article starting on page 1.

A whooping crane is on this month's back cover. They will be migrating through our State in October, most likely down the central part as they wing to wintering grounds in Texas. Give them safe journey—they need all the help possible to survive. Cover photos by Ed Bry.

### HOW TO SUBSCRIBE

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In a project to re-establish a nesting flock of giant Canada geese in Kidder County, 97 goslings were reared at Slade Refuge this summer. In this photo, one of the geese watches over her nest.

Photos by Ed Bry

# Return of the Giant!

By Marvin Mansfield, Refuge Manager  
Slade National Wildlife Refuge, Dawson, N. Dak.

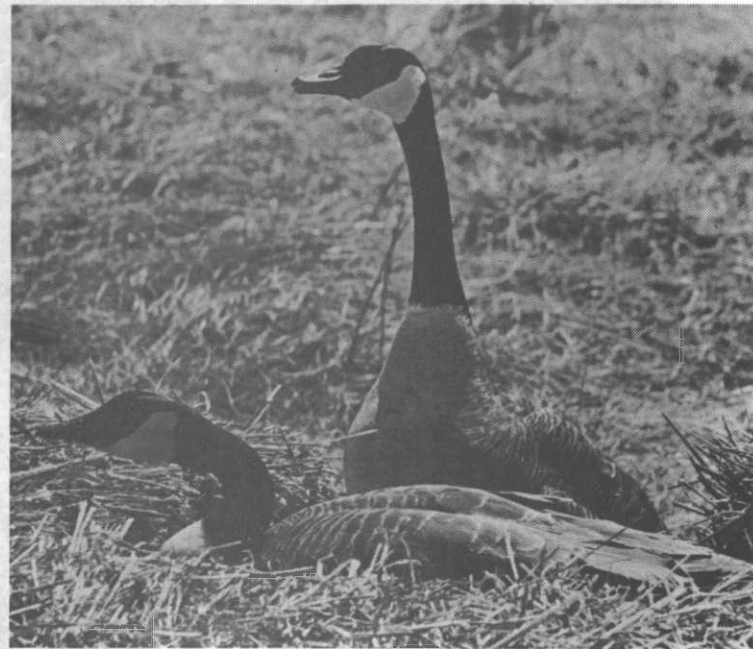
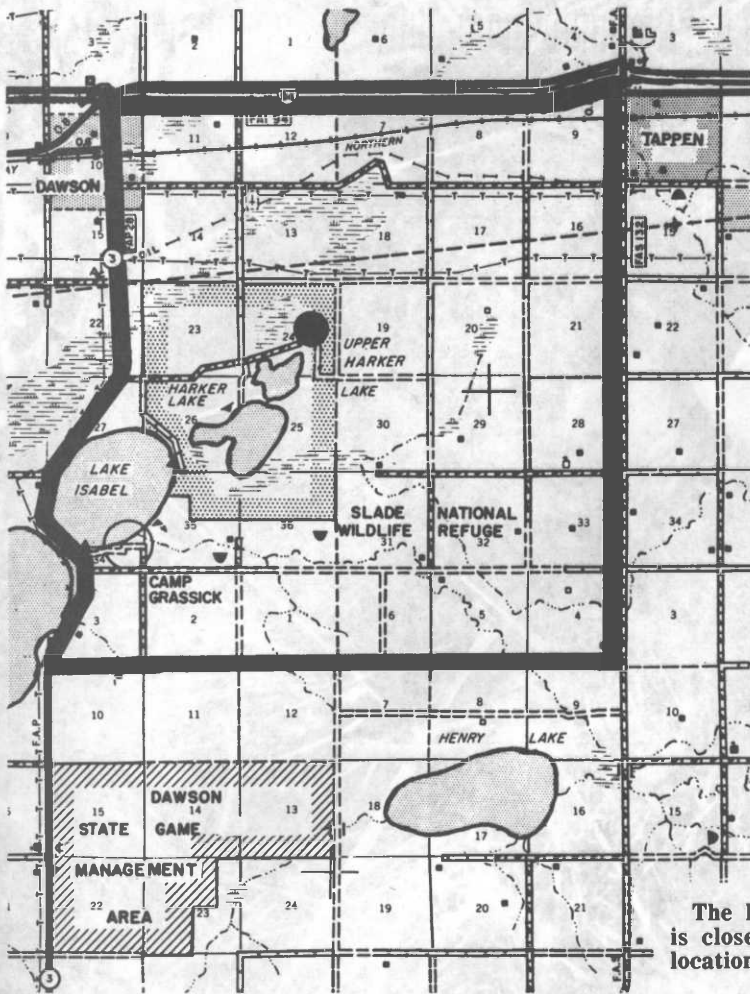
Giant Canada geese produced in Kidder County! Don't believe it you say. Take a trip to Slade National Wildlife Refuge, four miles southeast of Dawson, and see for yourself.

What are the geese doing at the refuge and where did they come from? To answer these questions, let's go back to a meeting that took place last fall be-

tween personnel of the State Game and Fish Department and the U. S. Fish and Wildlife Service.

At that meeting it was decided to try to re-establish Canada geese as a nesting species in Kidder County (from historical records and discussions with old-timers we knew they once nested here). The U.S. Fish and Wildlife Service would furnish the geese

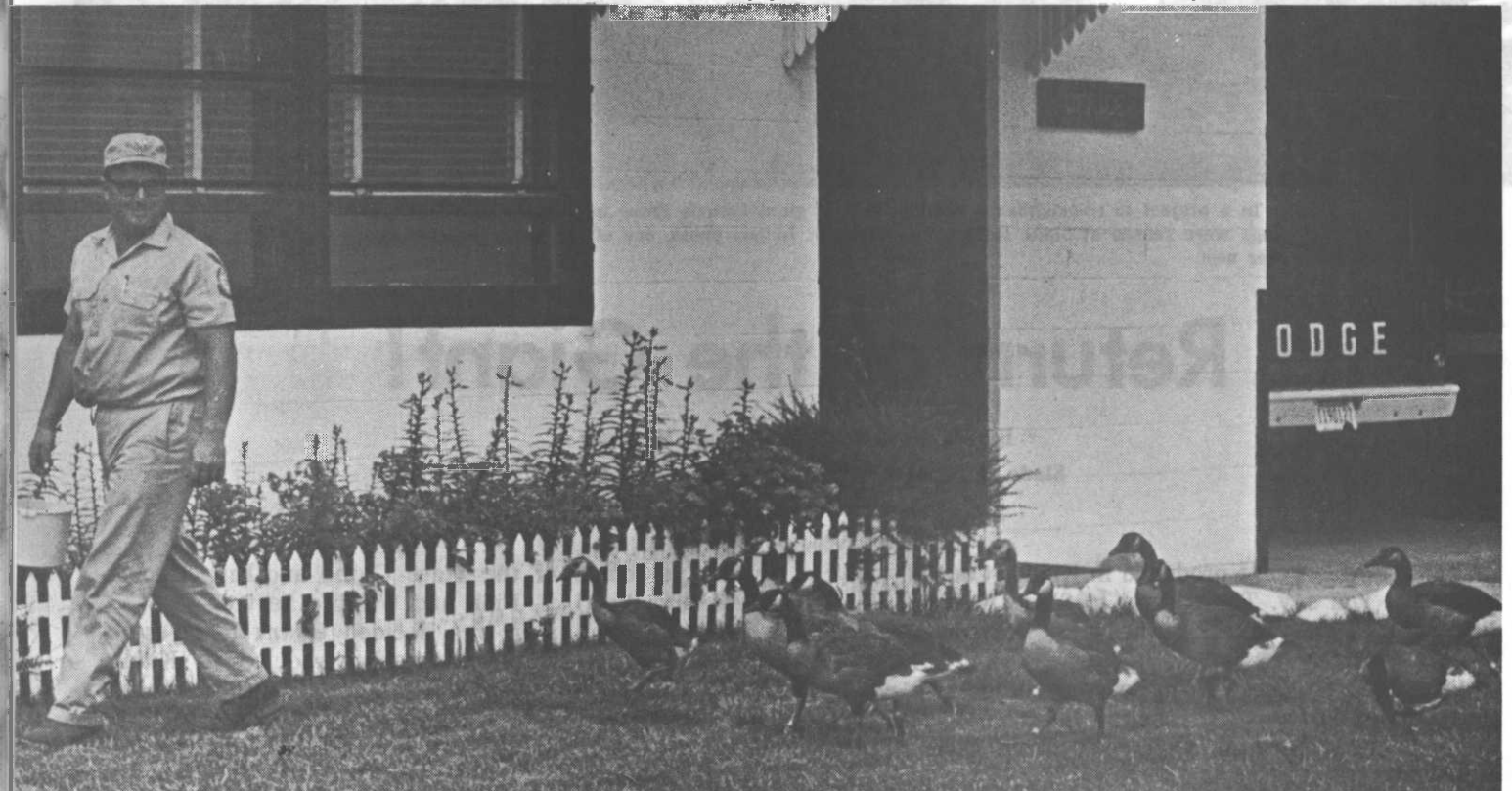




Above, a pair of geese at nest in the nesting pen near the refuge headquarters.

The heavy line on the map marks the boundary of the area that is closed to hunting Canada-type geese. The large dot indicates the location of refuge headquarters where the geese were raised.

Below, Alvin Hottman, refuge employee, leads the 10 geese that were hatched by incubator and grew up near the office—later they were transferred to the summer pen where they joined the flock and soon started to fly.







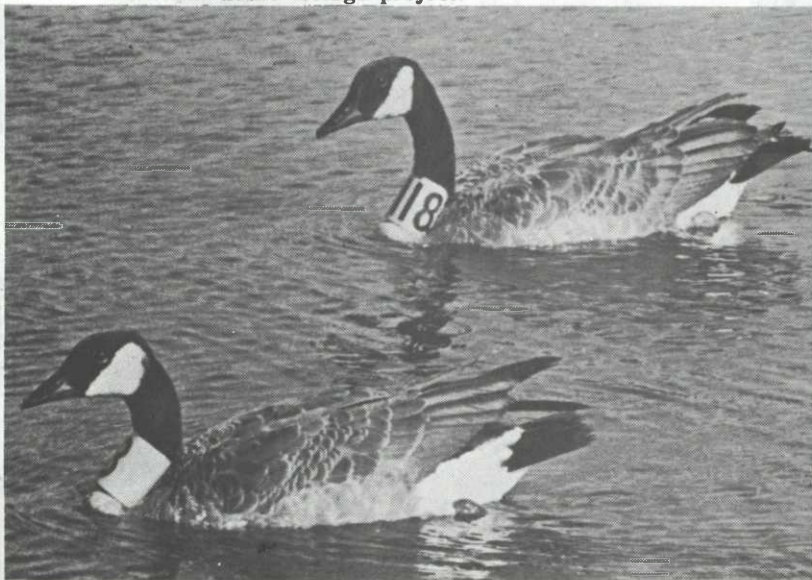
In this photo, the geese are shown in the summer (nesting) pen—the young were just beginning to fly.

and facilities to care for them, while the State Game and Fish Department would close an area around the refuge to Canada goose hunting.

The area closed to goose hunting (see map) is essential if the project is to succeed. Slade Refuge is only 3,000 acres in size, which is much too small to provide protection for the geese. Projects of this type have failed in other areas when too many geese are shot during the first few years. Eventually, we hope that part or all of the closed area can be opened.

You may wonder what difference it makes if the geese are killed? Geese normally return to nest where they are raised, but they do not nest before the age of two (they usually do not get down to serious business until three). Obviously they must be protected if any are to be available for nesting in two or three

The geese that have been allowed to fly have been fitted with orange, plastic neck-collars. This identifies them as being from the Slade Refuge project.



years. Remember, the main purpose of the project is to re-establish a nesting flock of giant Canada geese in Kidder County.

The first geese arrived at the refuge in February, 1969, and were kept in a small wintering pen at refuge headquarters. They came from the Northern Prairie Wildlife Research Center (NPWRC) at Jamestown. A total of 142 geese were received from the center.

The geese were turned into the 8½ acre summer nesting pen on April 6. Two pairs were held in the wintering pen to help prevent crowding of nests in the summer pen. These two pairs laid 15 eggs and raised 15 goslings.

Twenty nests were established in the summer pen but three of these hatched no young. The remaining 17 produced 72 goslings making a total of 87 hatched on the refuge. In addition 23 eggs were picked up and incubated at the NPWRC. Ten of these hatched and were raised at refuge headquarters, thus making a grand total of 97 goslings raised at the refuge this year.

We consider this an excellent start and it means the project has a good chance for success. Of course there are several ifs involved. If they spend the winter in an area where they are protected, and if they return to the refuge to nest in 1970.

At the present time there are about 190 free fliers in the flock and it is expected they will migrate this fall. We plan to keep about 25 pinioned (one wing cut off) breeders and 15 goslings at the refuge this winter.

In the future, success of the project will depend a great deal on the cooperation of private landowners. They are the key to success because the geese will have to nest on their land if many birds are to be produced. We expect refuge production to reach a peak between 100 - 200 birds.

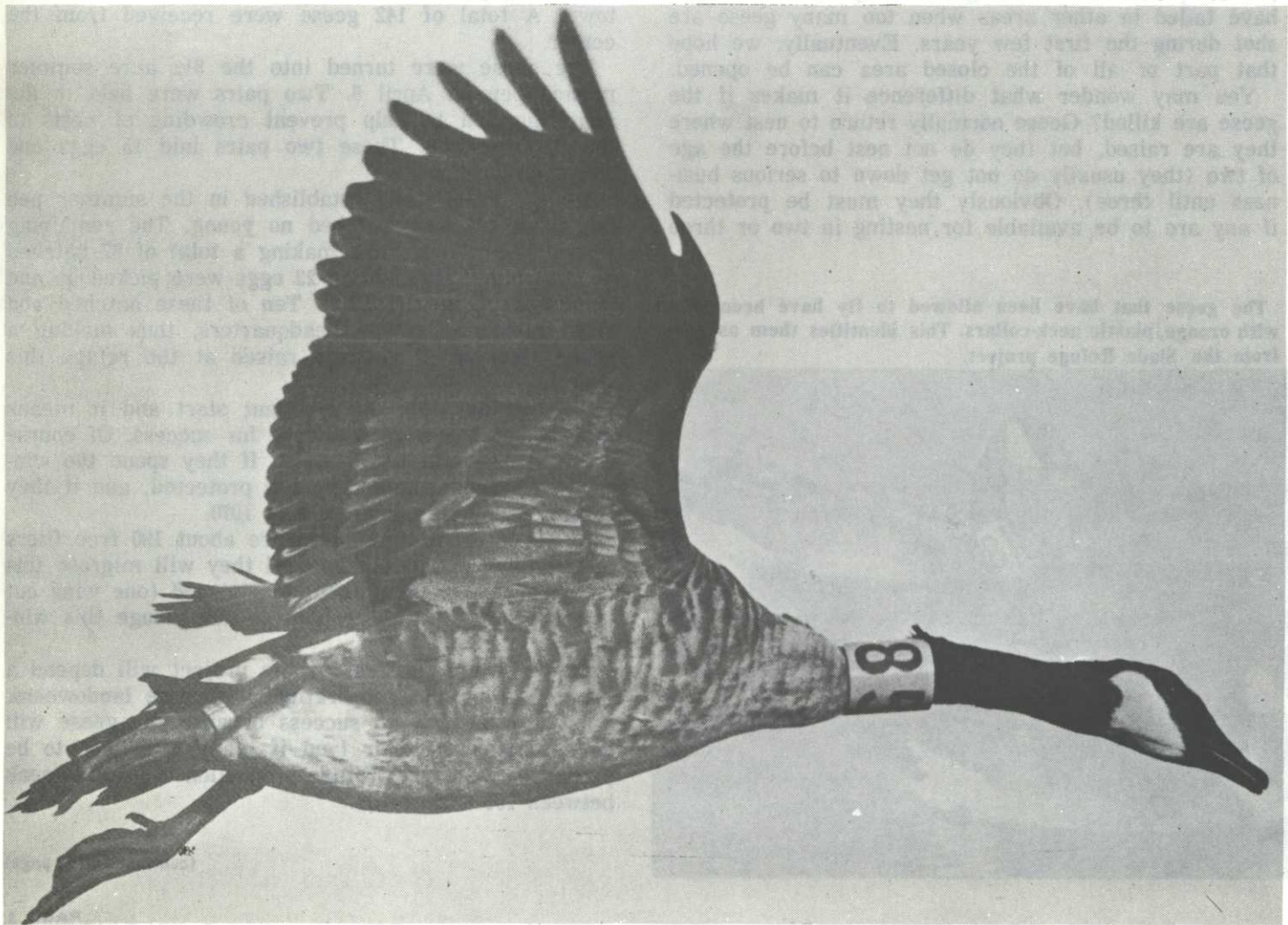
(continued next page)





As the birds developed and flying instincts increased, short flights around the summer pen and to a nearby marsh were made in the mornings and evening—by early September many of the birds left the pen and stayed in the marsh. Most of the birds without collars are pinioned birds which will be wintered at the refuge.

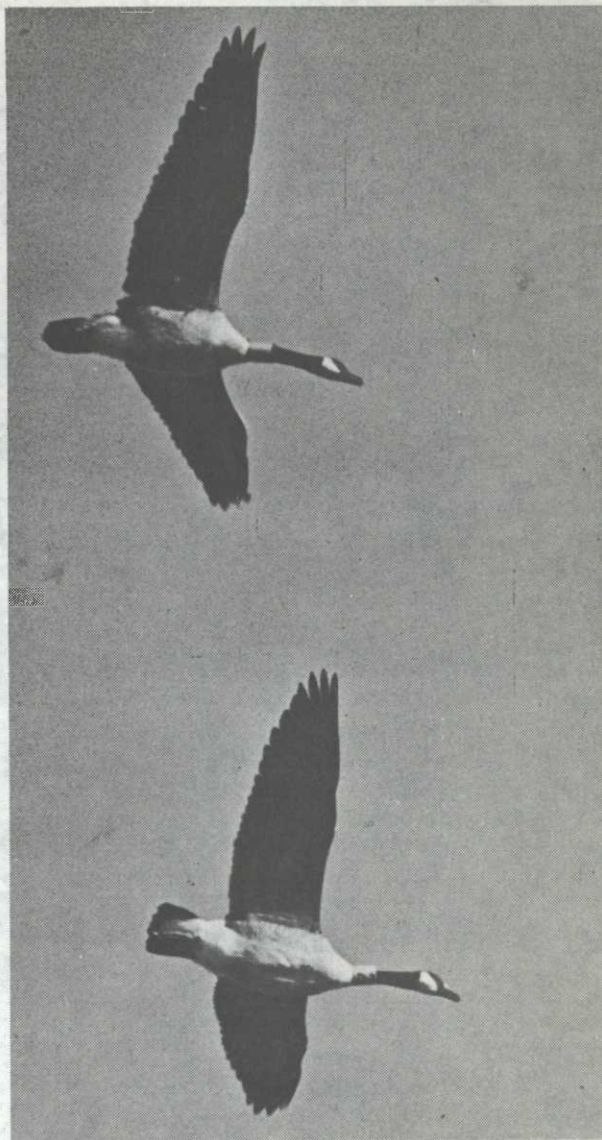
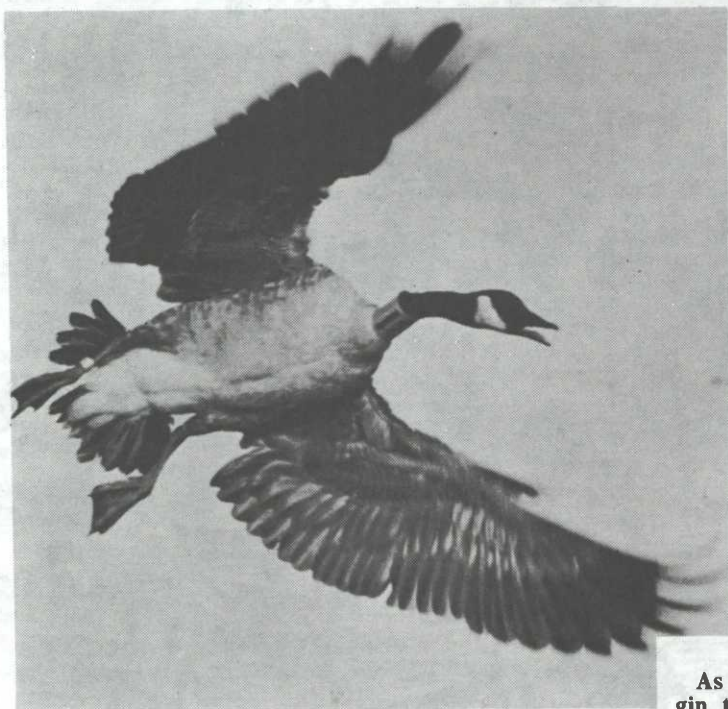
On wings that as yet are not too sure, this goose lumbers past the cameraman. A week after this photo was taken, the birds were much better fliers, wilder, and not as easy to approach.



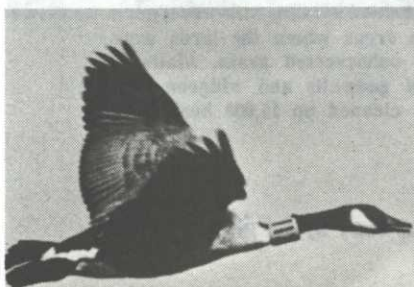


I have referred to giant Canada geese and you may wonder why the use of the word giant. There are several sub-species of Canada (white-cheeked) geese, and the one we are working with is the largest of all. A mature gander will often weigh between 12-14 lbs., and several have been shot that would exceed 16 lbs. These are truly trophy birds. The total North American population is estimated at less than 10,000 birds.

Working with geese is very rewarding and we have had many interesting experiences. If you would like to see the geese and share some of our experiences feel free to pay us a visit. Just come to refuge headquarters which is located two miles south and two miles east of Dawson.



As these photos show, the geese are now able fliers. They will begin to roam more with the colder weather. Hunters are asked to not shoot any Canada geese wearing orange neck-collars. The success of the project depends on the birds returning next spring and each year thereafter. If you see any Canada geese with orange collars, report how many and their location to Slade Refuge or to the Game and Fish Department. (If you shoot one also please report it.) No one knows where these geese will fly or where they will winter—but there are many who will be awaiting their return next spring.







Suggested titles for this picture are "Fall Duck Forecast for North Dakota," "Typical North Dakota Pothole in 1969," and "This Scene Will be Duplicated Countless Times This Fall." Really though, the duck outlook isn't as good as this photo indicates. It was taken September 11 at Clark Salyer National Wildlife Refuge near Upham. 80,000 ducks were counted on refuge waters at that

time, mainly concentrated near seven areas where the birds were being fed to keep them off nearby unharvested grain. Mallards and pintails, with a small number of gadwalls and widgeon, frequented the feed stations where they cleaned up 15,000 bushels of grain.

## A LOOK AT DUCKS AND HUNTING

Photo-Story by Ed Bry

"August was dry and hot over the prairies with temperatures well above normal and evaporation heavy. However, the spring water, hoarded by a cool and rainy July, lasted remarkably well and the 1969 duck crop is now safely on the wing with water to spare.

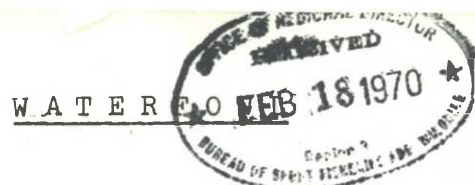
"It was an excellent production season. Glowing reports of duck numbers have been received from

our fieldman and from many other sources, some with only a passing interest in ducks. The consensus is that there are more ducks on the prairies than for many years. Good progress has been made toward the satisfying population levels of the 1950's.

"While ducks of all species are still plentiful on the prairie ponds, concentrations are now developing on the larger marshes. Field feeding is



3-1750  
Form NR-1  
(Rev. March 1953)



REFUGE Slade Refuge

MONTHS OF September TO December, 1969

(1) Species	(2) Weeks of reporting period									
	8/31-9/6 1	9/7-13 2	9/14-20 3	9/21-27 4	9/28-10/4 5	10/5-11 6	10/12-18 7	10/19-25 8	10/26-11/1 9	11/2-8 10
Swans:						10	15	25	25	25
Whistling										
Trumpeter										
Geese:										
Canada Large (Ref.)	230	230	230	230	230	230	230	230	230	230
Cackling Small							70	70	90	
Brant										
White-fronted						7				
Snow										
Blue										
Other										
Ducks:										
Mallard	120	130	190	280	410	540	720	870	100	1,030
Black										
Gadwall	50	20	30	30	20	20	20	20	-	15
Baldpate	20	20	30	40	20	30	30	25	-	-
Pintail	20	20	30	30	30	40	40	40	10	10
Green-winged teal	10	20	40	60	70	60	50	45	10	10
Blue-winged teal	60	50	50	40	30	20	20	10	-	-
Cinnamon teal										
Shoveler	10	30	50	80	100	90	70	50	15	30
Wood										
Redhead	440	620	750	800	760	710	440	200	70	90
Ring-necked	85	90	110	130	135	120	90	35	10	20
Canvasback	100	100	80	60	20	20	20	10	-	-
Scaup	265	240	130	80	50	70	150	180	30	990
Goldeneye										5
Bufflehead					10	20	40	55	20	70
Ruddy	40	50	60	70	75	70	50	40	5	20
Other A. Merg.										10
Coot:	850	860	880	900	910	930	850	790	100	60

3-1750a  
Cont. NR-1  
(Rev. March 1953)

WATERFOWL  
(Continuation Sheet)

REFUGE Slade Refuge

MONTHS OF September TO December, 19 69

(1) Species		(2) Weeks of reporting period								(3) Estimated	(4) Production
		11/9-15	11/16-22	23-29	30-6	7-13	14-20	21-27	28-1/3	waterfowl	Broods: Estimated
		11	12	13	14	15	16	17	18	days use	seen : total
Swans:											
Whistling		25								875	
Trumpeter											
Geese:											
Canada Large (Ref.)		228	210	204	188	171	171	171	171	26,698	
Cackling Small		90								2,240	
Brant											
White-fronted										49	
Snow											
Blue											
Other											
Ducks:											
Mallard		1,030	170	50	50					39,830	
Black											
Gadwall										1,575	
Baldpate										1,505	
Pintail										1,890	
Green-winged teal										2,625	
Blue-winged teal										1,960	
Cinnamon teal											
Shoveler										3,675	
Wood											
Redhead		80								34,720	
Ring-necked		10								5,845	
Canvasback										2,870	
Scaup		900								21,595	
Goldeneye		5								70	
Bufflehead		60								1,925	
Ruddy		10								3,430	
Other A. Merg.		10								140	
Coots:		50								50,260	
						(over)					



(5)	(6)	(7)	SUMMARY
Total Days Use :	Peak Number :	Total Production :	
Swans 875 :	25 :		Principal feeding areas <u>Harker Lake, Headquarters Lakes,</u>
Geese 28,987 :	318 :		<u>South Marsh.</u>
Ducks 123,655 :	2,300 :		Principal nesting areas _____
Coots 50,260 :	930 :		
			Reported by <u>Marvin Mansfield</u>

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

3-1751  
Form NR-1A  
(Nov. 1945)

MIGRATORY BIRDS  
(other than waterfowl)

Refuge Slade Months of Sept. to December 195 69

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Pied-billed Grebe			41	9/5	7	10/20				75
Western Grebe			8	9/5	8	9/5				25
White Pelican			8	9/5	8	9/5				10
Double-crested Cormorant			8	10/3	8	10/3				20
B. C. Night Heron			4	9/17	4	9/17				6
American Bittern			2	10/3	2	10/3				5
Sandhill Crane*			15,000	10/5	1,500	11/12				25,000
II. <u>Shorebirds, Gulls and Terns:</u>										
Pink-billed Gull			70	10/3	70	10/29				100
Franklin's Gull			900	10/3	900	10/3				1,500
Killdeer			10	9/3	10	9/3				20
Avocet			5	10/29	2	11/5				15
*North of Dawson										

(over)



[illegible]

## INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
II. Shorebirds, Gulls and Terns (Charadriiformes)  
III. Doves and Pigeons (Columbiformes)  
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1752

Form NR-2

(April 1946)

## UPLAND GAME BIRDS

1613

Refuge SladeMonths of September to December, 19469

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	Crop - 300 acres Grass & Marsh 2,100 acres	160			50:50				15	
Sharp-tailed Grouse	" " "	34			50:50				70	
Gray Partridge	" " "	120			50:50				20	



## INSTRUCTIONS

### Form NR-2 - UPLAND GAME BIRDS.\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\* Only columns applicable to the period covered should be used.



3-1753

## BIG GAME

Form NR-3

(June 1945)

Refuge SladeCalendar Year 1969

(1) Species	(2) Density	(3) Young Produced	(4) Removals				(5) Losses			(6) Introductions		(7) Estimated Total Refuge Population		(8) Sex Ratio
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	
White-tailed Deer	Crop - 300 Acres, Grass & Marsh - 2,100 acres, Trees & Brush 50 acres	10	4									20	5	1:3

Remarks:

Reported by

Marvin Mansfield, Refuge Manager



## INSTRUCTIONS

### Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.
- (2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.
- (4) REMOVALS: Indicate total number in each category removed during the year.
- (5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE POPULATION: Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.
- (8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

DISEASE

Refuge Slade

Year 19 69

Botulism

Lead Poisoning or other Disease

Period of outbreak NONE

Period of heaviest losses \_\_\_\_\_

Losses:

	Actual Count	Estimated
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Number Hospitalized	No. Recovered	% Recovered
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(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Areas affected (location and approximate acreage) \_\_\_\_\_

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.) \_\_\_\_\_

Condition of vegetation and invertebrate life \_\_\_\_\_

Remarks \_\_\_\_\_

Kind of disease NONE

Species affected \_\_\_\_\_

Number Affected Species	Actual Count	Estimated
_____	_____	_____
_____	_____	_____
_____	_____	_____

Number Recovered \_\_\_\_\_

Number lost \_\_\_\_\_

Source of infection \_\_\_\_\_

Water conditions \_\_\_\_\_

Food conditions \_\_\_\_\_

Remarks \_\_\_\_\_



3-1757  
Form NR-7  
Rev. June 1960)

NONAGRICULTURAL COLLECTIONS, RECEIPTS, AND PLANTINGS

(1)

Refuge Slade

Year 19 69

	Collections and Receipts (Seeds, rootstocks, trees, shrubs)						Plantings (Marsh - Aquatic - Upland)						
Species	Amount (Lbs., bus., etc.)	(2) C or R	Date	Method or Source	Cost	(3) Total Amount on Hand	Location of Area Planted	Rate of Seeding or Planting	Amount Planted (Acres or Yards of Shoreline)	Amount and Nature of Propagules	Date	Survival	Cause of Loss
Colo. Blue Spruce	1,000 Seedlings	R	4/30	Purchase	\$45.00	None	Headquarters			750			
							Shelterbelt	750/ac.	1 ac.	(Seedlings)	5/1	90%	?
							NW Slough			250			
							Shelterbelt	750/ac.	1/3 ac.	(Seedlings)	5/1	90%	?
Eastern Red Cedar	200 Seedlings	R	4/30	Purchase	\$9.00	None	NW Slough			200			
							Shelterbelt	600/ac.	1/3 ac.	(Seedlings)	5/2	90%	?
Russian Olive	300 Seedlings	R	4/30	Purchase	\$13.50	None	Headquarters			300			
							Shelterbelt	600/ac.	1/2 ac.	(Seedlings)	5/2	90%	?

- (1) Report agronomic farm crops on Form NR-8  
(2) C = Collections and R = Receipts  
(3) Use "S" to denote surplus

Remarks:

Total acreage planted:

Marsh and aquatic \_\_\_\_\_  
Hedgerows, cover patches \_\_\_\_\_  
Food strips, food patches \_\_\_\_\_  
Forest plantings \_\_\_\_\_  
Shelterbelts 2 1/6 Ac.

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3-1758  
Form NR-8  
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Florence Lake County Burleigh State North Dakota

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Water- fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested		Unharvested				
			Acres	Bu./Tons	Acres	Bu./Tons			
Wheat	25.4	508 bu.					25.4	Sweet Clover	7.0
Oats	11.2	560 bu.					11.2		
Corn					14.4	0*	14.4		
						*Froze out		Fallow Ag. Land	14.0

No. of Permittees: Agricultural Operations 1 Haying Operations 0 Grazing Operations 2

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle	112	300.38	783.99	960
				2. Other				
				1. Total Refuge Acreage Under Cultivation				72
Hay - Wild				2. Acreage Cultivated as Service Operation				0



DIRECTIONS FOR PREPARING FORM NR-8  
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

3-1758  
Form NR-8  
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Slade

County Kidder

State North Dakota

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Water- fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested		Unharvested				
			Acres	Bu./Tons	Acres	Bu./Tons			
Wheat	93.3	1,026 bu.	31.6	710 bu.	24.9	373 bu.	93.3	Sweet Clover Alfalfa	31.3
Oats	79.5	3,975 bu.					79.5		23.4
Barley	24.1	530 bu.					55.7		
Corn							24.9		
								Fallow Ag. Land	3.5

No. of Permittees: Agricultural Operations 2 Haying Operations 0 Grazing Operations 4

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle	137	347.14	906.04	710
				2. Other				
				1. Total Refuge Acreage Under Cultivation				311.6
Hay - Wild				2. Acreage Cultivated as Service Operation				0



DIRECTIONS FOR PREPARING FORM NR-8  
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

3-1570

NR-8a

## REFUGE GRAIN REPORT

Refuge.....Slade

Months of January thru December 1946.

[illegible]

(8) Indicate shipping or collection points.

(9) Grain is stored at Slade Refuge

(10) Remarks.



NR-8a REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lbs., Corn (ear)—70 lbs., Wheat—60 lbs., Barley—50 lbs., Rye—55 lbs., Oats—30 lbs., Soy Beans—60 lbs., Millet—50 lbs., Cowpeas—60 lbs., and Mixed—50 lbs. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately: Corn, wheat, proso millet, etc. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share-cropping, or harvest from food patches.
- (4) A total of Columns 2 and 3.
- (6) Column 4 less Column 5.
- (7) This is a proposed breakdown by varieties of grain listed in Column 6.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters grainary", etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

ANNUAL REPORT OF PERSTICIDE APPLICATION

Refuge

Slade

Proposal Number

Reporting Year

1969

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6/3	Leafy Spurge	6 scattered patches ranging in size from 10 sq. ft. to 200 sq. ft.	0.02	Tordon	$\frac{1}{4}$ pint	4 lbs./ac.	Water 100 gal./ac.	Hand pump
7/1	Poison Ivy	Rec. Area. Many small patches	0.05	Trysben 200	1 pint	5 lbs./ac.	Water 25 gal./ac.	Hand pump
7/17	Leafy Spurge	6 scattered patches ranging in size from 10 sq. ft. to 100 sq. ft.	0.01	Tordon	$\frac{1}{8}$ pint	4 lbs./ac.	Water 100 gal./ac.	Hand pump

10. Summary of results (continue on reverse side, if necessary)

(a) First years results: (Spurge)

1. Date and amount of first rainfall
2. Date of first observation
3. Date of first effects noted
4. Character of symptoms
5. Date of examination and percent of apparent kill
6. Date of follow-up observation and percent regrowth
7. Date of examination and percent of real kill
8. Cost of chemical, equipment, labor: total and per acre cost

1. 6/10 .10"
2. 6/17
3. 6/17
4. Plants wilted and turning brown
5. 7/7 95%
6. 8/11 10%
7. 8/11 90%
8. \$1.75; \$2.50; \$4.75 --  
Total \$9.00 or \$450.00/ac.



10. T 84.0 11. 21.0 / 10.0  
12. 1.0 13. 2.0 14. 3.0 15. 4.0

1. 7/3 .25"  
2. 7/11  
3. 7/11  
4. Yellow and shriveled leaves  
5. 7/17 85%  
6. 8/6 20%  
7. 8/6 80%  
8. \$1.13; \$1.50; \$2.40 --  
Total \$5.03 or \$100.63/ac.

ΔΤΔ

15